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Original ARTICLES

THE PATHOGENESIS OF JAUNDICE IN EARLY LIFE

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THE PROBLEM of neonatal jaundice is a complex one but it has now lost some of the confusion which had existed concerning it. Protection of the neonatal brain by prevention of hyperbilirubinemia through the use of exchange transfusion is the prime objective in the management of neonatal jaundice.

The basic factors in the production of jaundice at any age are, excessive destruction of red blood cells, injury to liver cells and obstruction to outflow of bile. The underlying mechanisms which bring one or the other of these basic factors into operation with such disorders as erythroblastosis, sepsis or atresia of the bile ducts are well understood. Acquired hemolytic anemia, congenital spherocytosis and other entities which more commonly affect adults are also well understood as rare causes of jaundice in infants. With all of the common and uncommon entities considered there remains a significant group which is of uncertain etiology. The cases which make up the latter group usually fall into one of two broad categories — "physiological" jaundice and hepatitis.

Although the prime consideration so far as protection of the brain is concerned is the prevention of hyperbilirubinemia and this is accomplished by exchange transfusion, differential diagnosis is also necessary in order that specific therapy, when indicated, may be instituted.

Differential diagnosis may be difficult because: (1) hemolytic disease of the newborn cases may be complicated by obstructive features; and (2) hepatitis in infancy may frequently present with signs suggesting complete obstruction including pale stools and absence of urobilinogen in the urine; (3) liver function tests are often inconclusive in the newborn. However, it is rare that one is unable to arrive at an accurate diagnosis upon which therapy may be founded.

The relative frequency of occurence of the different entities which result in early neonatal jaundice is a changing one. Obstruction is not a common cause but congenital atresia is still confused, occasionally, with jaundice due to sepsis, erythroblastosis or viral hepatitis. Syphilis, once a prominent cause is now a rare one. It is not possible to list the causes in a fixed order of frequency of occurrence but such a list would vary little from the following: "Physiological" jaundice, Hemolytic Disease of the Newborn, Sepsis Neonatorum, Hepatitis, Obstructive Jaundice (Atresia, Plugging of ducts), and others.

Sepsis is sufficiently common that it and Hemolytic Disease of the Newborn could well be reversed in frequency in many localities. Also whether hepatitis or atresia is more frequent might well depend upon case material.

"PHYSIOLOGICAL" JAUNDICE

This is not an entirely benign process as evidenced by the demonstration of kernicterus in premature babies with severe "physiological" jaundice(1). Certain facts concerning the "physiological" form helps in the understanding of the problems presented by some of the other forms of jaundice. Some of these facts are:

1. Although only three times normal amounts of bilirubin is formed during the first ten days

of life(2) the immature liver is unable to excrete it fast enough to prevent indirect reacting hyperbilirubinemia.

2. The liver is functionally very immature at birth. It excretes bile at a rate of only 1 to 2% of the adult liver.(3) Physiological involution of the liver due to loss of the arterial blood from the umbilical veins may play an important part in this immaturity of function but this is not proved.(4)

3. The more immature the baby the higher the bilirubin in the blood is apt to reach. Mature babies often reach 7 mg./100 ml. while premature babies often have levels of 12 mg./100 ml.(5)

It is evident then, that in the immediate post-natal period the liver is presented with an increased load of bilirubin due to the rapid break-down of red blood cells. The liver is often unable to clear the plasma of this excess and this defective function is directly related to the degree of immaturity of the infant. Though the jaundice which results is usually mild and of no clinical significance the term "physiological" is inaccurate and falsely implies complete innocence.

HEPATITIS

The gain in the better understanding of "physiological" jaundice has been accompanied by the recognition that hepatitis is not rare in infancy. This is in spite of the fact that infectious hepatitis (virus A) is a very rare complication of pregnancy(6) and in the cases in which it has occurred the infants have not been affected.(7)

On the other hand the virus of serum hepatitis (virus B) occurrs in the serum of 0.2 to 0.5% of the population and it has been shown that transplacental transfer of serum hepatitis from an apparently normal mother to the fetus may occur. This is well documented in a reported case. The serum of the normal mother and the serum from the affected baby each produced hepatitis when injected into human volunteers.(8) The mother gave no history of jaundice. This baby was one of 12 infants in whom jaundice began shortly after birth. All of these infants showed the same changes when examined at necropsy. The changes in the liver were those which have been described by other authors as giant cell hepatitis.(9) Eight additional cases with similar findings are described by Bowden and Donohue.(4) It may now be concluded that giant cell hepatitis may result from transplacental transfer of the A & B viruses of hepatitis. The familial incidence of giant cell hepatitis, it has been suggested,(10) may be on the basis of carrier mothers. Giant cell hepatitis is a definite morphological entity and can be caused by viruses A & B but it is not yet clear whether or not it may have other causes.

Hepatitis in infants may be caused by other known viruses. The virus of herpes simplex(11), (12) and that of cytomegalic inclusion disease(13) belong in this category.

Toxaplasma is a rare protozoan cause of neonatal jaundice(14). This is a congenital disease which results from transplacental transfer from a carrier mother. More and more cases are being recognized.

HEMOLYTIC DISEASE OF THE NEWBORN

These cases are the result of iso-immunization and include the Rh-Hr system, the ABO system and other rarely active antigens. The cause of the jaundice in erythroblastosis fetalis is the greatly increased destruction of red blood cells which have been damaged by the coating antibody. These infants are not jaundiced at birth because the mother has excreted the excess of bilirubin. It is in this group that a close watch for the appearance of jaundice is necessary if kernicterus is to be prevented. Icterus often appears within the first few hours. In our experience levels of 5 or 6 mg/100 ml. of serum and sometimes higher have been reached before skin jaundice is observed. The earlier jaundice appears the more probable it becomes that dangerous bilirubin levels will follow.

When the use of exchange transfusion is delayed beyond the time when the indications are present (a level of serum bilirubin of 4 mg/100 ml. at birth or 6 mg/100 ml. at 4 hours of age or 10 mg/100 ml. at 12 hours of age) then, more than one exchange is apt to be necessary. Also, when hyperbilirubinemia persists the bile canaliculi in the liver may become plugged with bile pigment – "bile thrombi" – and the signs of obstructive jaundice supervenes; the stools lose their color, bile appears in the urine and the bilirubin in the blood shows a rise in the direct reacting fraction. This is called the inspissated bile syndrome. The jaundice may last for 3 or 4 months and may be confused

with other types of obstructive jaundice. This complication is rarely a factor during the critical first day of life but after the first day the serum bilirubin should be determined as both direct and indirect reacting forms so that should the indirect component approach 20 mg/100 ml. in a mature baby, or 15 mg/100 ml. in a premature baby at anytime during the first week of life exchange transfusion can be carried out.

SEPSIS

Sepsis is a cause of equal importance with isoimmunization with which it also vies as a cause of kernicterus. It should always be suspected in cases of neonatal jaundice when the Coombs test is negative. Jaundice from this cause is usually a little more tardy in its appearance than jaundice due to isoimmunization. The organism commonly at fault is E. Coli and the portal of entry is usually the umbilicus. These infants may show few or no signs of infection. Since there may be no reminder in the form of symptoms, it must be kept in mind in the differential diagnosis.

OBSTRUCTION

Obstruction due to congenital stenosis or atresia is perhaps more important in differential diagnosis than it is as an entity. Atresia is uncommon while the causes of jaundice with which it may be confused are common. This statement is especially true when dealing with early neonatal jaundice. Even in the cases of prolonged jaundice of the newborn about 15% are due to erythroblastosis fetalis complicated by the inspissated bile syndrome and about half of these have been mistaken for atresia of the bile ducts.(15) Cases of sepsis of the newborn make up another group, a significant number of which are mistaken for atresia. Infectious hepatitis in infants notoriously gives signs of obstruction (due to swelling and blocking of bile canaliculi). Atresia of the bile ducts is a very difficult diagnosis to make and must be made by exclusion.

Isoimmunization, sepsis and hepatitis must be thought of and excluded before the diagnosis of atresia is made. The conclusion that obstruction is due to atresia should be made only after observation up to 60 days. In this condition the serum bilirubin rises slowly and steadily without variations; the indirect and direct fractions are of approximate equal value; the flocculation tests are normal; no bile is present in the duodenum; and there is no urobilinogen in the urine. Exploration should be delayed until the above data are complete.(17, 18)

The term – inspissated bile syndrome – is confused in medical parlance. Used first to define intrahepatic obstruction of bile canaliculi in hemolytic disease of the newborn, it is now used also by surgeons to designate extra-hepatic bile duct obstruction by mucous plugs. This confusion limits the usefulness of the term.

OTHER CAUSES

Congenital spherocytosis, manifest at birth, is not excessively rare. Our experience has included six cases in one year. Because of the spherocytosis these cases may be confused with ABO hemolytic disease. But to think of it is to diagnose it. During neonatal crises of this disease it may become necessary to do exchange transfusion in order to maintain the pre-operative bilirubin at a safe level.

Acquired hemolytic anemia (auto-immune hemolytic disease), active at birth, is quite uncommon but cases are recorded. The Coombs test is positive and the problem, including the necessity of maintaining the serum bilirubin within safe levels, is essentially that of the isoimmune form of hemolytic disease of the newborn except that the possibility of aid from the steroid hormones is greater and splenectomy, after a period of observation, may occasionally be considered.

Congenital non-spherocytic hemolytic anemia is an entity which may manifest itself at birth. Patients with this disease are not benefited by splenectomy. We have observed an infant suffering from this disease and the child remains jaundiced at 4 years of age.

Congenital non-hemolytic jaundice is a familial disease which is the result of an inherited inability of the liver to excrete bilirubin. When it is manifest immediately after birth the hyperbilirubinemia may result in kernicterus(15).

Another cause of prolonged neonatal jaundice is galactosemia. Jaundice is not an essential part of this disease but it may develop because of the cyto-toxic effects of galactose on the liver. The icterus has been described as a prolongation of the "physiological" jaundice. To diagnose it is to save a baby from abnormal development and mental retardation(19).

SUMMARY

Hemolytic Disease of the Newborn and Sepsis are discussed as the common causes of early neonatal jaundice. Bile duct obstruction, hepatitis and rarer causes of newborn jaundice are considered with differential features. Notes on "physiological" jaundice are included. The premise is outlined that the physician managing jaundice in the early neonatal period is obligated to prevent hyperbilirubinemia with its attendant danger of kernicterus through the timely use of exchange transfusions.

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THE DOCTOR AND THE COURT

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FEW REALIZE how intimately the medical profession is connected with the administration of justice. Most doctors freely express the desire to stay as far away from the courtroom as possible. But members of the medical profession do appear in Arizona courtrooms every day, and their influence is felt in countless instances, even where they do not actually testify before the jury.

The great bulk of civil litigation these days arises out of personal injury sustained by auto mishap. In even as small a state as Arizona, many thousands of dollars are paid out every day to compensate for expense, pain and suffering sustained in this type of case. More than 90% of this is by compromise and settlement made before the case is presented to the jury. The alleged negligent driver is usually insured and it is, of course, the insurance company which is primarily concerned in his defense.

There are two issues in the personal injury case — legal liability and extent of injury. The former is a question of fact and law with which the doctor has, or should have, no concern. Usually there is sufficient doubt about this issue that the court will permit the jury to determine the question. This means — at least to the pessimistic lawyers representing the insurance companies — that the jury will almost surely resolve the doubt in favor of the injured plaintiff.

As a practical matter, then, the importance of the issue of legal liability is greatly minimized. We see instances every week where insurance companies pay out substantial sums in settlement even though they are morally certain that there is no legal liability. The reason for this is that they feel it is cheaper to settle than to defend, or else they feel that they would rather not risk an adverse verdict for a much larger amount at the hands of a sympathetic jury and, perhaps, a sympathetic judge.

Many students of the system feel that the only logical destination to be reached by this kind of thinking is the total elimination of the question of legal liability, and the mere assessment of compensation by a board or commission, like the compensation award the injured workman now receives from the Industrial Commission.

This suggestion has been raised here only to emphasize the importance of the second aspect of the case, the extent of injury. This is the aspect where, it is plain to see, the injured person, his lawyer, the insurance company, and, by extension, all of us who pay insurance premiums, are all dependent upon the doctor in the case and the opinions he expresses. It will be assumed that the doctors who treat the potential plaintiff patient are conscientious, competent and busy. The internist, the pathologist, the roentgenologist, the anesthesiologist, and the surgeon, each plays his part. There is little thought of subsequent litigation at the early stages of the case.

The day comes, however, when the patient's lawyer appears in the doctor's waiting room — usually without appointment — and says, "Doctor, please tell me all you know about this case." After this, he will ask for a written report, made in as much detail as possible. This report, probably made available to both sides in the case, may very well be the foundation for settlement, particularly if previous experience has demonstrated the competence and objectivity of the maker of the report.

In cases where the injuries are grievous, or where there is a claim of permanent injury, however, the defense will probably hire its own medical expert, whose report will, in turn, be made available to the plaintiff. If the reports from the two sides are in substantial agreement, the probability of settlement is great. As to describing the injury, the action taken to repair it, the probable amount of pain and suffering, and the reasonable cost of repairs, the area of dispute is small.

There are three important areas, however, where disagreement more often arises, and it is in these areas that large amounts of money ride on the expert medical opinion. They are, first, the extent of future disability, expense, pain and suffering; second, the genuineness or seriousness of subjective complaints that can-

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not easily be proved or disproved; and, third the aggravation or reactivation or pre-existing injury or disease.

It requires a great amount of money to compensate a young wage earner who has been permanently and totally disabled. So when the patient's doctors say that he will never be able to work again, and the insurance company's doctors say he will soon be in just about as good shape as he ever was, there is a likelihood that they are going to have to state their opinions to the jury, and permit the reasons for their opinions to be searched out by cross-examination.

When the patient's doctor testifies to the existence of a cervical-brachial syndrome, and expresses the opinion that his patient is not exaggerating when she describes excruciating pain, while the defendant's doctor states he can find nothing objective to support patient's claim, adding that he is of the opinion that $5,000 would immediately banish all pain, the case may well be headed for the courtroom.

And lastly, and perhaps most difficult of all, the court and jury are likely to hear about it when the plaintiff's doctor says that the injury awakened a quiescent case of Buerger's disease or tuberculosis, or speeded up the degenerative changes in the spinal processes, while the opposing opinion is that the circulatory system was already so deteriorated that the patient was seated over a lighted and gangrenous fuse, or that a thoracoplasty was indicated long before the accident, or that the pain in the back was due wholly and solely to the wearing off of the edges of the vertebrae by the passage of time, and not by the collision of two motor vehicles.

Even in these three fields lawyers and clients will often find room for compromise, but frequently the doctor will be told to get ready to testify. This should not be disturbing news. Because they are dependent upon the doctor's good will, not only for this case, but also for the next, and because they are aware of the busy doctor's problems with regard to time and schedule, the lawyer and the judge will exert every effort to accommodate the doctor. Although he is subject to subpoena, and can be made to appear and wait like all citizens, it is invariably ascertained in advance at what time it is most convenient for the doctor to appear. When that time arrives and the doctor walks into the courtroom, by agreement of counsel he is put on the witness stand at once, even though it be out of order. His testimony is taken with as little delay as possible, and he is thereupon excused. And despite his extreme reluctance to appear at all, he usually finds that he has enjoyed a stimulating experience which he is glad he didn't miss.

Occasions have arisen where doctors have been subpoenaed and forced to wait. These have been extremely rare and are due to the inexperience or lack of understanding on the part of plaintiff's lawyers. They could have been avoided had the doctor apprised the judge of the situation. On the other hand, on equally rare occasions, the doctor, without excuse, has arbitrarily refused to respond to the processes of the law, has failed and refused to appear, and has forced cases to be postponed or dismissed. The judge who did not punish for this contempt of court would be as derelict in the performance of his duty as the doctor was in his.

There are now, at least in the two larger counties in Arizona, joint committees of the medical societies and bar associations, to whom any complaints of this nature may be referred and expeditiously handled.

When the doctor takes the witness stand veteran court observers always watch with interest. As an expert witness, his testimony is given great consideration. The plaintiff is naturally expected to say she hurts, and the defendant is expected to say he really didn't hit her hard at all, and those self serving statements are passed by without making too much impression. But the doctor who testifies calmly and dispassionately, without any apparent interest in the outcome, as to what was broken and what was torn, what was mended and what can't be mended, makes a great impact, not only upon the jury, but on all who listen. This testimony will be believed, and these opinions respected.

Many plaintiff's doctors have a natural sympathy for their patient. They know how much she has suffered, and they want to see a generous award in her favor. Not infrequently the plaintiff is indigent, or nearly so, and there is no hope for the doctor to be paid for the many, many hours of work he has put on the case unless the jury helps him out. While this

will not affect the honesty of the doctor's testimony, it may well affect the enthusiasm which he betrays for the plaintiff's case. This can be dangerous. Some doctors, in trying to help, have even attempted to suggest to the jury why the defendant must have been negligent to have inflicted this terrible injury.

On the other side of the coin, there are doctors who tend to belittle any complaint the validity of which cannot be proved by laboratory test or x-ray. It seems that defense lawyers like to use surgeons, and particularly orthopedic surgeons, as their expert witnesses for this reason. Whether there is something in the training or experience of such specialists that justifies the generalization that they tend to be favorable to the defense is doubtful.

The fact is, however, that the doctor who states what he knows in a let-the-chips-fall-where-they-may manner, and who states the opinions that he feels qualified to express from the facts he knows to be true, neither unduly stressing the favorable points, nor unduly minimizing the unfavorable, is the doctor who will best do his job in the courtroom, and will best further the cause of justice.

After the doctor has stated his case on direct examination, he is subjected to cross-examination by the attorney on the other side. Many doctors worry about the traps that may be laid, or about what they inadvertenly may be led to say. Often they are indignant, perhaps because the lawyer persists in using medical terms he doesn't know the meaning of, or because he asks questions that are so ambiguous or unintelligible that a straight answer is impossible, or because the lawyer betrays such an abysmal ignorance of the subject that it is impossible to communicate with him.

In some cases the indictment is justified, but the doctor needn't worry, for the jury will discover incompetence as soon as he does. The apparent ignorance of some lawyers, however, is not always genuine. They may merely be putting themselves in the shoes of the medically uninformed juror and, perhaps, be seeking to get across the point that a cervical-brachial syndrome is nothing more nor less than a pain in the neck.

As a matter of fact, when the lawyer commences to cross-examine the doctor he is sitting on a much hotter seat than is the doctor. He must ask himself, "What can I do to help my case by this cross-examination?" If the doctor has in no way overextended himself on direct examination, if he has expressed only opinions for which he has sound grounds, if he has stayed strictly in his own field, if he has, in short, told only what he knows, and not what he merely suspects or hopes, the chances are that the lawyer would do well to forego cross-examination.

Cases are brought asking for damages for injuries that never existed, or for injuries that occurred from some cause other than the accident complained of. Plaintiffs may exaggerate the seriousness of their injuries, and sometimes there is no better cure than a favorable jury verdict. But by and large people are honest and state their claims as honestly as they can. The insurance companies, furthermore, recognize that it is their duty and obligation to pay just claims, and they are willing to do so. The quality and fairness of the medical testimony, then, in the last analysis, is the measure of the justness of the result.

Doctors, just like our lives and health, our fate in court is in your hands.

MYCIN — SCHMYCIN

By Robert J. Antos, M.D.
Phoenix, Arizona

SPIRAMYCIN, Amecitin, Cathomycin, Oleandomycin, Sigmamycin! Do you feel like tearing out your hair, exclaiming, "Mycin, Schmycin! Will it ever make sense?" Cheer up, even the experts are confused. They now have to hold yearly antibiotic conferences in an attempt to peer through the smog of agents of antibiosis. This report is an attempt at hitting only the high spots of the present state of confusion that now exists.

Your editor asked to have submitted a list of the newer antibiotics with appropriate comments to clarify the confusion caused by duplication and dissimilar trade names. After wading through multiple reports, my appropriate comments would be unprintable. So I have narrowed this to two parts: a report of what's been going on, and a list of the multitude of antibiotics (with a minimum of appropriate comments).

Someone by the name of Pickerell (Lancet, July 14, 1956, page 101) published an interesting report concerning the "H-bug". This is the New Zealand name for 'Hospital epidemic antibiotic-resistant staphylococcus'. Someone in this country came up with the term 'Nosocomial'. According to the dictionary, this is an obsolete term meaning "applied to disease caused or aggravated by hospital life".

This report of Pickerell's was not the first of this type. Several have been published in the past year or two. But Pickerell's paper is the first one that covered a large group of patients. In this report were the results of some common sense precautions undertaken to combat the 'H-bug'.

In a children's hospital, where these antibiotic resistant staph became a problem, certain strict regulations were enforced. Antibiotics were forcibly held to a minimum, reminiscent of the penicillin rationing of 1943 or thereabouts. Infants were handled only by their mothers (to whose organisms the babies have immunity), and each room was thoroughly scrubbed between patients. Antiseptics were restricted to a minimum because of their damage to infant tissues. The effects were not immediate. They had grumblers and physicians who refused to comply. But they beat them down eventually. Finally after several months, the incidence of 'H-bug' began to decline. The reduction was steady until after one year of this program this Nosocomial scoundrel is again a rarity at this institution.

It was reports similar to this that started all this fuss over new antibiotics. It just happened that several of them were promoted almost simultaneously during the past couple months. In mid-October was held the fourth annual symposium on antibiotics in Washington, D. C. There was strong disapproval of the principle of combining two or more antibiotics for the purpose of delaying the development of resistant organisms. In fact the highlight of this meeting was the panel discussion on resistant strains of microorganisms.

All but two of the eight panel members stated in various ways their strong disapproval of the principle of combining two or more antibiotics for the purpose of delaying the development of resistant organisms. It was agreed that such a combination cannot be effective for this purpose unless the organism is sensitive to both or all the antibotics used in the combination. If the organism is resistant to any one of the antibiotics in the combination the only value of the combination lies in the effectiveness of the antibiotic to which the organism is sensitive. They do not concede that clinical synergism has been demonstrated in the combinations of antibiotics under consideration.

While increasing concern was expressed over the emergence of resistant strains, the panel felt that the answer to this situation lies not in combining antibiotics but rather in discontinuing the abuse of antibiotics already available, and in observance of the basic principles of asepsis and antisepsis. In fact toward the end, the panel members forgot all about antibiotics in a lively discussion of septic hands, blankets, masks, floor mops, etc.

If one goes back far enough, the same story with different names came up when the sulfonamides were first put into multiple combinations. A few years later the marriage of sulfonamides and penicillin stirred the ire of some. More recently the combination of penicillin and

streptomycin did likewise. Since then, we have been offered other combinations with mixed opinions as to their value.

The mixtures of the newer 'cyclines' and mycins is just another phase in this same story; there will be more combinations to come in future years. We do not attempt to praise them nor condemn them. Here we shall give you a brief discussion of some of the preparations under study and finally wind up with a list of those currently available commercially.

OLEANDOMYCIN (Pfizer) – Penicillin-like spectrum. Like all new antibiotics in this category it is effective against some resistant staphylococci. In doses of 3 Gm. daily there were failures in the treatment of gonorrhea which you would not find with penicillin. If this antibiotic were as good as penicillin, one would expect it to be marketed to compete with penicillin.

SIGMAMYCIN (Pfizer) – Combination of 167 mg tetracyline and 83 mg Oleandomycin per capsule. The dose is 1 or 2 capsules q.i.d. with meals or a glass of milk. (?) Could it be they anticipate the stomach lining will be discombobulated?

This dosage and proportion would give only ⅔ the usual daily dose of tetracycline. The claim is made that there is "synergistic" action that delays emergence of resistant staph. However, this claim is based on test tube experiments, pictures of which you have already received in mail advertisements.

Here is some food for thought. Since Oleandomycin has essentially a penicillin spectrum and tetracycline is a broad spectrum antibiotic, nothing is going to affect the organisms outside the penicillin spectrum except the dose of tetracyline given. Nothing is mentioned or even hinted about the synergistic action on the organisms which are not affected by Oleandomycin. We must reserve judgment on this one.

PENICILLIN V – Clinical reports on penicillin V continue to be disappointing. Despite the "high" blood levels, which really are not too significant, it has not yet established any superiority over oral penicillin G – in fact, clinically when given in equal amounts, penicillin V is inferior. To get comparable results, the dosage of penicillin V must be higher than those commonly with penicillin G. Actually, it has been recently shown that plasma binding of penicillin V is much higher than that of penicillin G, and this higher plasma binding far offsets the so-called higher blood level.

VANCOMYCIN (Lilly) – Penicillin-like spectrum. This has been found very active against resistant staph. Up to now it must be given I. V. and is very insoluble. It is very irritating to tissues and may have renal toxicity.

NOVOBIOCIN (formerly Streptonivicin) – Various forms. (See list at end of article). Penicillin-like spectrum, but not as good as penicillin against many penicillin sensitive organisms. Skin reactions very high (40%). Should be restricted to resistant staph.

BRYOMYCIN (Bristol) – Supposedly a new and better form, but is same as Novobiocin.

RISTOCETIN (Abbott) – They claim superiority, too, but it's still Novobiocin.

THIOSTREPTON (Squibb) – Penicillin-like spectrum. Thought by some to be the most active, but it is so insoluble as to be impractical at this time.

SPIROMYCIN (Sharp & Dohme) – A weak cousin to Novobiocin.

AMPHOMYCIN – Very little information. Sounds like an "also ran" with a weak penicillin-like spectrum and action.

There are some miscellaneous antibiotics with "narrow band" spectra.

AMPHOTERCIN B – inhibits candida and histoplasma.

NYSTATIN (Squibb) – inhibits candida.

MYSTECLIN (Nystatin & Tetracyline, Squibb) inhibits candida.

AMEBOCIDE (Squibb) – inhibits histoplasma.

AMECETIN – A streptomyces derivative which proved a failure in acute leukemia (only one report so far).

ASCOSIN – Reported useful in tinea capitis.

CYCLOSERINE – Clinical trial in tbc gave equivocal results; toxicity has been confirmed.

XANTHOCILLIN – Effective against PROTEUS with or with Tyrothricin. It may be that this is what was formerly known as penicillin X and Y from the mycelia of PENICILLIN NOTATUM.

PANTOTHENATE SALTS OF STREPTOMYCINS – reported as less toxic by some; others state they are just as toxic as the sulfates.

FURADANTIN – This belongs in a group by itself. But we have first hand experience wherein I. V. Furadantin has proved life saving

in bacteremia caused by organisms resistant to all antibiotics. In several cases of bactermia due to AEROBACTER AEROGENES – I. V. Furadantin was especially efficacious when all else failed.

FUROXONE – Another nitrofuran compound. It is effective orally and has the advantage of not being protein bound. Evidence is piling up that side effects are minimal and that it is effective against gram-negative organisms. *In vitro* it has good activity against systemic infections including antibiotic resistant *Staphylococci, Salmonella typhosa,* and *Klebsiella pneumoniae.*

CONDENSED LIST OF ANTIBIOTICS

Generic Name	Trade Name
Penicillins – Crystalline – Penicillin G or O	Too numerous to list.
Penicillin-V	V-Cillin (Lilly) Pen-V-Oral (Wyeth)
Procaine – Penicillin G or O	Too numerous.
Benzathene	Bicillin (Wyeth)
Penicillin G	Permapen (Pfizer)
Streptomycin, dihydrostreptomycin, alone or in equal mixture.	Numerous
Penicillin and Streptomycin combinations	Combiotic (Pfizer) Crysdimycin (Squibb) Durycin (Lilly) Pen-Duostrep (Merck) S.R.D. (Parke, Davis)
Tetracyclines	
Chlortetracycline	Aureomycin (Lederle)
Oxytetracycline	Terramycin (Pfizer)
Tetracycline	Numerous Achromycin (Lederle) Tetracyn (Pfizer) Panmycin (Upjohn) Steclin (Squibb) Polycycline Terrabon (Pfizer)
Calcium di-oxytetracyline	
Erythromycin	Erythrocin (Abbott) Ilocycin (Lilly) Erythromycin (Upjohn)
Chloramphenicol	Chloromycetin (Parke, Davis)

THE "NEWER" ANTIBIOTICS

Novobiocin (from **streptomyces niveus** and **S: spheroides**)	Albamycin (Upjohn) Cathomycin (Merck) Cordelmycin (Pfizer)
Spiramycin	A sleeper as yet similar to but not so good as novobiocin. (Sharp & Dohme)
Oleandomycin (from **streptomyces antibioticus**)	Matromycin (Pfizer) Will be combined with other antibiotics ad **nauseum.** Sigmamycin is a mixture of Tetracycline and Oleandomycin. Supposedly effective against resistant Staphylococci.
Amecitin A Streptomyces antibiotic	Proved to be a dud against acute leukemia. Only one report published so far.
Pen-M	A new sleeper: An Oleandomycin salt of Penicillin G. The M stands for Matromycine, Pfizer's Oleandomycin.
Furadantin I. V.	Especially effective in **Aerobacter aerogenes** bactermia.
Furoxone	May prove to be the compound with the broadest spectrum.

CLINICAL OBSERVATIONS ON THE PHYSIOLOGY OF BONE

By Dr. Wallace H. Cole St. Paul, Minn.

THE PHYSIOLOGY of bone, its development, growth and repair is so taken for granted by most of us that we seldom stop to think of the intricate and complex tissue with which we have to deal when treating diseases and injuries of the skeleton. Although a vast array of facts and theories has entered the medical literature there are still many factors relating to the bones as organs of the body which are completely unknown or as yet very controversial. The nature of ossification, the minute processes involved in bone formation, the character of the various bone cells, the importance of hydrogen ion concentration and of the many other chemical reactions necessary for bone to remain alive and to be an active tissue, as well as other allied conditions too many even to list would have to be evaluated before a true scientific background for a knowledge of bone physiology could be obtained. To attempt a detailed physiological discussion is, of course, impossible and, therefore, only a bare outline of the problems involved will be indicated but enough, it is hoped, to remind you that bone has a very dynamic nature and that the calcium, phosphorous and organic content change constantly during life with alterations in the normal resulting from changes in general physiology, as in starvation, immobilization and certain generalized diseases, and also following shifting of the strains and stresses acting on the bones.

The size and weight of a bone depends to a certain extent on the use to which it has been put and the bones of a man who has done heavy physical work all his life are heavier, more dense, and rougher than in one who has always had a sedentary occupation. This difference must depend upon activity and function as applied to living and plastic tissue. Without this stimulating activity the bones are smoother and less radiopaque and as more extreme examples we see the bone atrophy which accompanies long fixation in plaster of Paris during fracture treatment and the marked disuse atrophy frequently present in a limb weakened by poliomyelitis. External forces applied by means of splints, bandages and other types of apparatus have long been used therapeutically to change the shape of bones. Practical experience has shown this to be possible although what occurs intrinsically cannot be fully explained other than that bone is biologically plastic and will react to the forces placed upon it. Club feet, bowed legs, curvature of the spine and many other common conditions are treated with this in mind and with the realization that the deformities were in themselves based in general on the same factors. The deformities of the lower jaw and teeth resulting from scoliosis plasters has necessitated a change in the method of application due to the rather quick reaction of the mandible and the teeth to the abnormal forces placed upon them. The science of Orthodontia is founded on this knowledge.

It is well to remember that there are definite inherited traits which must be recognized as important basic reasons for bone growth and architecture as, of course, is also true with the other organs of the body. The inherent growth tendencies in bone have been beautifully shown in studies of the growth of the limb-bud of a chick in tissue culture after removal from the embryo. The femur was reproduced from the apparently undifferentiated mesenchyme and bore a marked resemblance to the normal in configuration and cellular structure in spite of the absence of all soft parts and the forces which they would ordinarily exert on the growing bone. The form of the femur and, therefore presumably of other parts of the skeleton, is not dependent upon intact surrounding structures for its definite basic pattern although many modifications normally must occur due to functional, that is mechanical, nutritional and other factors, subject to the action of the surrounding tissues. This marked capacity for growth and differentiation as shown in the laboratory bears out what John Hunter expressed over one hundred and fifty years ago when he reasoned that there is a form of "consciousness" to living bone. More recently Janson has discussed this activity of hereditary forces and speaks of a kind of "intellectual judgment" in bone cells. As Murray says, "the cells of the axial condensation in such a structure as a limb-bud are already determined or at least biased toward the formation of cartilage and bone," and "there already exists in the skeletogenous mesenchyme, before the lumb-buds appear, some kind of plan or growth

Presented at Annual Meeting of Arizona Medical Association.

pattern."

The long bones of the body are pre-formed in cartilage and grow in length through enchondral ossification and the activity of the epiphyseal disks, the mechanism of which growth and the intimate nature of the process at work being still obscure but clinically, outside the laboratory, we all know that the epiphyseal cartilage is the exclusive agent which is responsible for diaphyseal elongation. Any interference with an epiphyseal disk will tend to distort its function and if complete destruction occurs longitudinal growth is irreversibly stopped at that point. The operations which are directed at the epiphyseal line in cases of unequal leg length are based on the practical knowledge of the function of the line although probably there is no surgeon who understands the basic biological or chemical reasons back of this knowledge. The power of growth is demonstrated when an arrest of growth is attempted by placing staples across the epiphyseal line, for we know from sad experience that at least three staples are usually necessary on either side to restrain the tremendous growth pressure of the line and prevent spreading of the staples. This pressure will break wires which are used for the same purpose. If a portion of the epiphyseal disk has been destroyed or damaged by injury, tumor, infection, x-ray or other agent, the remaining part will continue to grow and deformity of the extremity will result. This probability must be recognized even before it is grossly evident so that parents can be told what to expect and so that preventive measures, if reasonable, can be started early. Every epiphyseal separation or fracture involving the epiphyseal line is potentially a cause for later deformity and such cases must be watched long after healing has taken place for obvious reasons.

The function and properties of the periosteum have been the basis of many controversies and discussion both in the past as well as more recently and a review of the literature on the subject tends to make a surgeon fall back on his practical observations without attempting to explain or worry about fundamental reasons for these functions. From a surgical point of view the osteogenic power of the deeper layer of the periosteum in active or growing bone cannot be denied and although bone growth and repair will proceed without periosteum, or the bone forming cells in its deepest stratum, the circulation which it gives to the underlying cortical bone and possibly its action as a limiting membrane makes its presence essential for normal bone development. Clinical observation shows constantly that the less the periosteum is disturbed the more quickly and surely a fracture heals, other things being equal.

Bones, having pre-eminently a mechanical function, illustrate well the interdependence of function and structure in the body as already suggested and Wolff's law and its modifications is based on this premise. It is only by the influence of forces applied through normal function that normal contours and structures as we know them can be elaborated and maintained. The self differentiating skeleton of the early embryo, mentioned earlier, soon reacts to the effect of these mechanical elements of growth and the final form of any bone is not normal unless that bone has had normal function throughout its development. The coxa valgum and atrophy appearing in paralytic hips and the changes seen in untreated congenital dislocation of the hips are examples of this which we have all seen. The mechanical forces probably act as an excitant of the various biological and chemical factors which are more directly and intimately associated with bone growth. We do not have to be exact followers of any of the outstanding students of bone physiology to be clinically sure that there are laws of "functional adaptation" of bone which are based on the structural changes which occur following alteration in the forces of pressure and tension acting on that bone.

It has been said that a keen observer could tell in many cases what the occupation of an individual had been by examinating his skeleton and there is no doubt but that certain types of heavy work carried out through many years will cause skeletal changes as a response to the specific forces acting on the bones. Wright has shown in this connection how in a sloth, an animal who does not walk but hangs from the limbs of trees with all four extremities, the architecture of the upper end of the femur is entirely different from that in related animals who use their legs for weight bearing.

The growth of bone and enlargement of the various parts of the skeleton up to adult life shows definitely how continuously the process of laying down new bone and the resorption of the older bone is going on during life although

few of us ever stop to analyze what this remodeling means. Just try to visualize the shape of an adult femur if growth in length was not accompanied by resorption of the excess bone at the same time. Compare the size of the oburator foramen in an infant and an adult and it is at once evident that resorption of bone is as active and necessary as the depositing of new bone during growth. In early life the active formation of new bone must proceed faster than resorption or else growth would not occur and it is only when adult life is reached that the two processes tend to balance each other. Late in life the reverse may happen to a certain extent.

A discussion of a few clinical cases may bring out more clearly some of the points that have been touched upon. Epiphyseal separation will occur instead of fracture following certain injuries in children because the epiphyseal line is weaker than the bone itself and consequently will give or disrupt before the adjacent bone breaks. Likewise we sometimes find deformity developing through an epiphyseal line when the contiguous joint is ankylosed as the cartilaginous disc responds quicker to deforming forces than the bone. It has not uncommonly been observed that an apparently ankylosed hip in a growing individual has gradually assumed a deformed position, examination revealing that the head of the femur, or what remained of it, had not changed its relationship to the acetabulum but that the change in position had taken place through the proximal femoral epiphyseal line. Children with ankylosed knees return sometimes with marked flexion deformity due to changes at the distal femoral epiphyseal disk probably the result in part, at least, to the pull of the hamstring muscles. Certainly this happens often enough to insist that the hamstrings be completely severed whenever a knee joint fusion is undertaken before growth has been completed.

Bone grafts are still the subject of a vast literature of a very controversial nature which cannot be discussed here, but there is one practical clinical observation which might be mentioned; a graft which is made to function will usually grow and develop but without this stimulus it will tend to atrophy and eventually disappear. Many surgeons have remarked on the disappearance of the shelves or roofs which they have placed over the heads of femora for stabilizing congenital luxations of the hip but experience seems to show that any shelf which is properly placed so that it functions as a buffer to the thrust of the femora will hypertrophy and not melt away.

When a bone block is built up to prevent foot drop in a paralytic foot the same factors are at work and a functioning block will hypertrophy to its necessary strength and develop an internal architecture commensurate with its function.

Fracture through functioning bone grafts is not an unusual occurance and union progresses in most cases without further operative interference, the grafts being live bone and, therefore, reacting as normal bone would in forming callus.

When the shaft of a bone is partially destroyed so that there is a gap in the continuity of the bone and, therefore, loss of function of that bone the ends of the fragments remaining tend to atrophy and become conical and shorter.

It has been suggested that alternate relative hyperaemia and ischemia as a result of muscle relaxation and contraction is largely responsible for maintaining the normal calcification of bone and that this assists in the healing of fractures and other bone defects. We know that bones in a paralyzed person tend to atrophy but certainly fractures in such bones heal promptly in the absence of all the muscles.

One could continue indefinitely with comments of the various clinical phases of bone physiology, which has been discussed here strictly from the Orthopaedic point of view, and no attempt has been made to digress into the more strictly medical aspects of bone physiology as seen clinically although much might be given based on blood changes after such a procedure as intramedullary nailing in children, on calcium metabolism in the body, 99% of the body calcium being in the bones, on hormonal aspects of the subject, and on what was suggested earlier, the atrophic changes occurring in the skeleton in later life. It is hoped that the points covered will refresh your memory on some phases of bone physiology and to make it very apparent that, although the underlying biological and chemical factors may not be well understood, we are dealing daily with a markedly complex and active tissue the nature of which is mechanically suitable for the work it has to perform.

THE *President's* PAGE

DISRAELI wrote, "Propriety of manners and consideration for others are the two main characteristics of a gentleman."

These are but two of the noble attributes of your friend and mine, Jesse D. Hamer.

It is with great pride that I announce the recent action of the Council of the Arizona Medical Association, and the resolution of the Maricopa County Medical Society in commending Jesse Hamer to the House of Delegates of the American Medical Association for election to the office of vice president of the AMA.

That we should seek to honor Dr. Hamer in this manner is only proper, as an expression of our sincere respect for a man who has served his county society since 1928, his state association since 1934, and the AMA as a delegate for the past twenty-two years. It is beyond the scope of your President, within this short space, to recite the numerous accomplishments of this man. We all know of his service on the AMA Council on Medical Service and on the Advisory Committee to the Board of Trustees of the American Medical Education Foundation.

He has given unstintingly of his time, labor and wisdom in service on many of our important committees, and he guided the destinies of the Arizona Medical Association in 1936, when he served as our president. He is a veteran of World War One, and has been a Commissioned Commander in the Medical Corps Reserve of the U. S. Public Health Service since World War Two. He is a member of many national and regional scientific organizations.

Yet, this remarkable Jesse can find some time to devote to services to his community, especially to such youth projects as the Boy Scouts.

Truly, Dr. Hamer's life-time has been crowded with diligent service and fine accomplishments for others. He has performed all of these services without thought of asking for reward or praise.

Please join me in the hope that the glowing warmth of our pride and respect for Jesse Hamer will pervade the convention hall of the AMA in New York City in June, 1957, and that the House of Delegates of the AMA will take cognizance of our prayer for his election to the high office of vice president of our national organization.

A. I. Podolsky, M.D.
President
THE ARIZONA MEDICAL ASSOCIATION, INC.

Editorial

ARIZONA MEDICINE

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CONTRIBUTORS

The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules must be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English, especially with regard to construction, diction, spelling, and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Be brief, even while being thorough and complete. Avoid unnecessary words. Try to limit the article to 1500 words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.
6. Articles for publication should have been read before a controversial body, e.g., a hospital staff meeting, or a county medical society meeting.
7. Exclusive Publication—Articles are accepted for publication on condition that they are contributed solely to this Journal. Ordinarily contributors will be notifed within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
8. Illustrations — Ordinarily publication of 2 or 3 illustrations accompanying an article will be paid for by Arizona Medicine. Any number beyond this will have to be paid for by the author.
9. Reprints — Reprints must be paid for by the author at established standard rates.

The Editor is always ready, willing, and happy to help in any way possible.

(The Opinions expressed in original contributions do not necessarily express the opinion of the Editorial Board.)

THE CASE OF THE YELLOW JOURNALIST

(Reproduced by permission of the American Academy of General Practice).

"THE JULY issue Woman's Home Companion article, entitled "Why You Can't Afford to be Sick" will earn authors Sidney Shalett and J. Robert Moskin the 1956 award for cheap distorted journalism. Never, between the covers of a single magazine have we found a more complete collection of malodorous, journalistic bedevilment. It is an old melody and the lyrics have not changed. The struggling free-lance writer knows that many editors like an ounce of truth and a ton of seething sensationalism. Witness the success of the inside-story magazines.

Shalett and Moskin found the bottom of the barrel. Every junior journalist knows a dozen ways to twist the truth and sell the story. The authors learned their lessons well — then pulled out all the stops.

The Shalett-Moskin story is little more than a grimy, abasing anthology. In a single, scathing polemic, the authors discuss gouging, unnecessary surgery, ghost surgery, fee splitting and malpractice. The informed readers, having been previously exposed to other inept contributions, have the impression that authors Shalett and Moskin have produced little more than a single, trashy conglomerate.

Exhibiting an unenviable lack of originality, the authors resort to such tired tricks as the isolated case and the glittering generality. The article cites four cases involving financial panic as the result of prolonged illness. This is as enlightening as a clinical study of the first four children who received Salk polio vaccine.

The article asks and answers questions. One answer is amusing — in an absurdly grim and tragic way. Why are some physicians opposed to group practice? Because, the authors point out, group practice takes the patient out of circulation. When the illogical is found wanting, try the ridiculous.

This is no rebuttal. Certainly the more than 24,000 who read GP won't waste their time on ill-considered drivel. But the magazine (thanks in part to other morsels of sensational journalism) will reach hundreds of thousands of people who will promptly decide that their family doctor is an evil, gouging, fee-splitting, ghost surgeon. It is certainly not appropriate for the doctor's waiting room.

Approximately a year ago, Sidney Shalett visited the headquarters office. He was assured and reassured that the Academy's press and public relations staff was at his disposal. We feel sure that the American Medical Association and others have extended the same invitation. Only by rigidly following a policy of full co-operation, can we contribute to accurate, unbiased articles.

Small wonder then that we are distressed by the Woman's Home Companion article. We appreciate the might of the pen and the power of the press. We also place a premium on truth, accuracy and the ethics of good journalism.

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The above scathing editorial is reproduced to give you an opinion of the article mentioned. The article, "Why You Can't Afford to Be Sick" although being yellow journalism is more likely prompted by more sinister motives of the authors and is an exemplification of venomous propaganda, indulged in by many others besides Shalett and Moskin. These articles are truly Hitler-type propaganda. This propaganda, by repetition, is to prepare the public for the socialization of medicine, which would be the great step necessary for over-all socialization (call it Federalization, or any other modern term if you wish).

We can not feel too smug in our knowledge that the "Woman's Home Companion closed its doors in December 1956 along with Colliers, which published "Why Some Doctors Should be in Jail".

It is hoped that if you have not read the July and August issues of the Woman's Home Companion 1956, that you have your wife dig them out for you. Next month we will, for your information, refute the authors of this malicious perversion of the truth.

Congress is in session. It is time for us with renewed vigor to protect our government so that it may continue to be successful for all people.

LBS

UNQUALIFIED M.D.

IT WOULD seem clear that the statements made by Dr. Willard C. Rappleye, dean of the Faculty of Medicine at Columbia University in his annual report to the president of the university and widely publicized by Scope Weekly under the headlines, "Columbia Dean Asserts U. S. Admits Large Numbers of Unqualified MDs" need some careful "spelling out".

In the first place it is important to remember that the business of granting citizenship is Federal Government business; the business of granting license to practice medicine is entirely the business of the government of each individual State. If the Empire State is flooded with unqualified MDs from foreign medical schools then the New York State Examining Boards are solely responsible.

In the second place; a clear distinction should be made between foreign schooled doctors admitted on student exchange visas and those admitted on immigrant visas. Under existing laws the former cannot possibly be licensed to practice medicine anywhere in the United States. Citizenship, or at least first papers, is a prerequisite to medical licensure and the holder of the primary or exchange visitor visa cannot under any circumstances change his status. He may apply for renewal of his primary visa annually but no matter how many years this may be granted he is no nearer citizenship or medical licensure. If he wishes to become a citizen of the United States he must first return to his native country, wait two full years and then he may apply for a permanent or immigrant visa which of course is subject to quota regulations.

The foreign schooled doctor who arrives in the United States with an immigrant visa can file his first papers and thereafter, in some States, can apply for medical licensure. Whether or not he gets his license depends entirely on the standards and requirements of the State Medical Examining Board. In Arizona the standards are high and the requirements are rigorous. A foreign doctor graduated from an unapproved

medical school has just as much chance of getting a license to practice medicine as a poorly trained American doctor; practically none!

The reader of the Scope Weekly digest of Dr. Rappeleye's report is likely to be confused when he encounters the statement that over 25% of the house staffs in the hospitals of the United States are aliens and in some states the percentage is over 50%. These men and women are still students under the direct and immediate supervision of licensed and presumably responsible physicians. If there is second class care in some sections of the country it is the fault of the attending physicians, not of the alien students on the house staffs. Thank God for the good men and women who have come to us here in Arizona for more medical training. What if we had to depend on the A.M.A. matching plan to staff our hospitals? C.L.R.

Book REVIEWS

MASKED EPILEPSY by Hugh R. E. Wallis, M.D. 51 pages. (1956) Williams & Wilkins, $2.50.

Since 1907, when Gowers wrote on Borderland of Epilepsy, no summary on masked epilepsy has appeared in book form. The subject fascinating in itself, has great diagnostic and differential diagnostic importance, both medically and legally. Cyclical vomiting, abdominal pain, pyrexia, nightmares and other symptoms as manifestations of epilepsy are discussed.

Stacey's Medical Books, San Francisco

CLUES IN THE DIAGNOSIS AND TREATMENT OF HEART DISEASE by Paul D. White, M.D. 2nd ed. 190 pages. (1956) Thomas, $5.50.

This edition presents additional important diagnostic and therapeutic clues in cardio-vascular diseases. The data has chiefly been assembled from the author's lectures in post-graduate courses. It should continue to be popular with the general practitioner for use as a quick reference.

Stacey's Medical Books, San Francisco

CIBA FOUNDATION SYMPOSIUM ON EXTRASENSORY PERCEPTION edited by G. E. W. Wolstenholme and Elaine C. P. Millar. 240 pages. (1956) Little, Brown. $6.

That an international symposium should dare to examine experimental and interpretive work in this field took "incredible courage," according to participating experts. Their observations and discussions present the best available, current apparisal of this novel, sometimes disturbing, yet fascinating frontier.

Stacey's Medical Books, San Francisco

The History of Medicine in Arizona

By Nelson Bledsoe, M.D.

GOVERNOR BENJAMIN BAKER MOEUR, M.D.

(First Installment)

THE IMPACT the activities of fellow physicians in and out of the professional practice of medicine is of importance to medical men of any time and age. One whose influence was considerable was Governor B. B. Moeur, M.D. His story carries with it much of interest not only from the highly colorful character of the doctor, but because of the effect upon life in the state since his passing this way. Quite suddenly, at nearly the end of a useful, steady life of service in medicine in his small community, he rocketed into state and even national fame. Dr. Moeur was twice governor of Arizona and died seventy-one days after relinquishing the governor's chair in 1937, at the age of 67.

He was son and grandson of doctors in San Antonio and spent much of his early days, until the age of 20, in the saddle on the range punching cows near the city of San Antonio. It was, no doubt, the experience of working with tough ranch hands and driving dumb critters that gave him the command of the vocabulary for which he was noted and his expressive language was the source of much humor. He always considered himself a Texan at heart and is said to have once engaged in a fist fight over some slight to his native Texas.

He came to Tempe in 1896 where he and his young wife settled in a two room shack in this tiny village which seems to spawn politicians, such as Hayden, Murdock and Pyle. During the years to follow, the shack was remodeled and added to many, many times until finally it became the spacious brick residence, with ample room for all four children and the grandchildren, standing in the original location with his office attached. During those first years, many of his calls were made on horseback or by buggy over the winding dusty desert trails. The sparsely settled countryside was only a short span away from the Indian Wars, the time of Geronimo and Cochise, but the population rapidly grew in the valley and the territory of Arizona, and Dr. Moeur's practice and responsibility with it. Dr. Moeur served for years as college physician of the Tempe College,

Benjamin B. Moeur, M.D.

serving largely without pay and it was his policy never to send a bill to a widow or a preacher.

His territory covered all of central Arizona and many times hurry-up trips were made with relays of horses. He was responsible for patients at Buckeye and as far up in the mountains as Roosevelt Dam. He made trips up to the dam when it was being built to look after the workmen. He didn't care for surgery and did the least possible, but he did do a great deal of obstetrics, delivering several thousand babies during his practice.

The story of an experience as told by Dr. Joseph Greer, who at that time was practicing at Mesa, is that Dr. Moeur called him out to see a woman with an acute abdomen and the arrangement was that Dr. Moeur was to give the anesthetic and the operation was to be performed immediately on the kitchen table. The fearful, timorous little lady looked up into Dr. Moeur's eyes and said, "Oh, Dr. Moeur, how long will I sleep after the operation?" He said, "Mmpff! B'God, some of mine are sleeping yet."

Dr. Moeur's daughter-in-law, Mary Moeur, who lives in Tempe, told a story about some time in the twenties during his busy practice, patients would come to the house at all times of the day and night. The phone was constantly ringing, and people were banging at the back door and the front door; one night Dr. Moeur had just returned about 1 o'clock after a hard day, the house finally became quiet when the phone rang. Mary said this was not at all unusual, but they heard a terrific string of oaths from the bedroom and, in fact, he was cussing so hard and the oaths a little worse than ordinary that they all went in to find out what was wrong with Dad. She entered the door just in time to hear him say, "Take him to hell for all I care," followed with a lot of other advice along the same line and banging up the receiver. Mary said, "Grandpa, what in the world is wrong?" He said, "This —— —— —— woman phoned to see if it would be all right to take little Johnnie to Buckeye."

Another interesting story Mary recalled was the time the front door bell rang and a bus driver was ushered into the living room. It was Thanksgiving day and the whole family, children and all were just sitting down to their Thanksgiving dinner. After visiting socially with the man for awhile, Dr. Moeur asked, "Well, Charlie, what do you have in mind?" The visitor answered, "Doc, I think I've got the smallpox." He had, so, as a result, Dr. Moeur had the whole family vaccinated on that Thanksgiving Day.

Dr. Moeur was an angry man at times, and at other times most kindly; in fact, with all his colorful language, the kindliness seemed to over-ride the other. There seldom has been a more profane character in public life, even in the roughest pioneer days, yet so often his use of profanity sounded just right, the expressions he used.

After the crash in 1929, taxes began to loom heavily on the property owners of Arizona. Dr. Moeur had worked for statehood and had been a member of the territorial legislature that established the Constitution in 1912. It had taken many years to bring about statehood, partly because the powers in the saddle in Washington were afraid to upset the balance of party politics in Congress by introducing another "Southern" state. After the 1929 crash, credit retracted and unemployment increased, cash capital went into hiding and farm properties were unable to carry their mortgages, to say nothing of taxes. Dr. Moeur repeatedly told his friends "somebody has got to do something about property taxes". In 1932, he finally decided to enter the race for governor against Attorney K. Berry Peterson and former seven times governor, George W. P. Hunt. Most of his close friends were skeptical and his nephew told him he "didn't have a Chinaman's chance of being elected". With no experience in politics and with no ability in public speaking, he would get up before an audience and tell them that he couldn't make a speech, but that he would make a "much better governor than a campaigner".

But let us hear what his nephew, Hub Moeur, has to say about him.

H.R. I'd like to ask you two or three questions; in the first place about Dr. Moeur's particular beliefs and platform – he was the first governor to promote a sales tax for Arizona?

H.J. Yes.

H.R. That really was the basis of his campaign, perhaps?

H.M. There is no question about that – he came into my office and told me about everything he had acquired over a period of years was in property, he was hollering about taxes. He said he was going to have to get a sales tax, that he was going to run for governor and I told him he was foolish.

H.R. In the process of the campaign, when he first ran, who was he running against?

H.M. He ran in the primary against K. Berry Peterson and old man Hunt.

H.R. What did the dopesters say?

H.M. Oh, well, they didn't give Dr. Moeur an outside chance even, but Hunt had run a good many times and people were disgruntled.

H.R. Wasn't it thought to be more or less a joke at first?

H.M. Well, they didn't think it was a joke, but they just didn't think he had an outside chance. I talked to Berry Peterson and I tried to get him to stay out. I told him that Doc singlehanded could take old man Hunt.

H.R. Well, can you tell me how close the vote was?

H.M. Not a majority, but a comfortable pleurality over either one of the others. I don't think he got more than both of them put to-


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gether by any manner of means; it was a fairly close race, in a three point race like that.

H.D. The other two split the vote more or less, did they?

H.M. Well, old man Hunt had his block pretty solid, the trouble is anybody running against any two or three fellows, well, they split the vote.

H.R. Was it Peterson and Moeur that split the vote between themselves?

H.M. Yes, I imagine most of the people that voted for Barry Peterson later voted for Doc.

H.R. Well, now do you recall what Dr. Moeur was most proud of after he had been in office for a couple of years besides, of course, getting the sales tax passed?

H.M. He just knew he was cleaning things out.

H.R. Who beat him when he was beaten?

H.M. I think four years later Stanford beat him in the primary. By that time we were into the depression pretty deep and all that kind of business. He was elected in 1932 and it was in 1936 when he was beaten.

See next issue for final installment on Dr. Moeur.

"The Case of the Doubting Doctor"

THE A.M.A. has just completed a thirty minute, color and sound movie entitled "The Case of the Doubting Doctor". The objective of this movie is said to be "to stimulate greater member participation in the activities of organized medicine; to create a better informed membership, and to enhance individual members' appreciation of the benefits of participation in medical organizations". It tells therefore the story of what organized medicine means to the 160,000 members of the A.M.A., but deals not only with the A.M.A. but in great measure with the work of the state and county medical societies. This movie is available on loan from the A.M.A. for showing before medical societies as well as before civic organizations such as Rotary Clubs, Kiwanis Clubs, etc. Those interested in obtaining this should address the A.M.A. with their request and plan a date far enough ahead so that the film will be certain to be available.

R. Lee Foster, M.D.

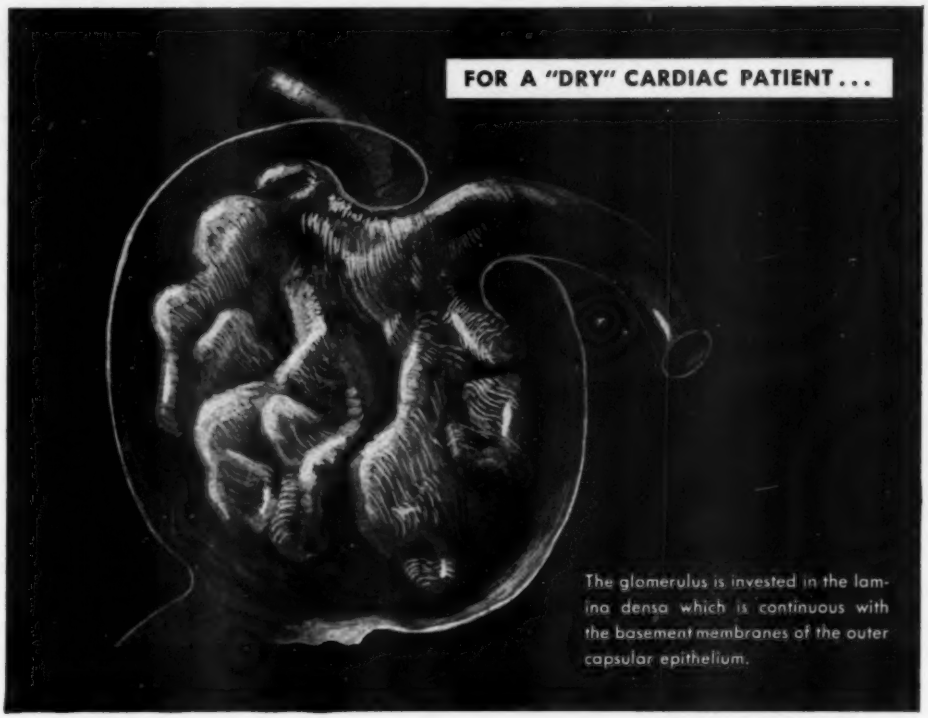

Illustration by Hans Elias

Rolicton® Diuresis Maintains Continuous Edema Control

The efficacy of Rolicton (brand of amisometradine) in maintaining diuresis in the edematous patient has been established on an average dosage of one tablet b.i.d. Larger doses may be given as initial therapy and as maintenance therapy in edema difficult to control. Many patients will respond to one tablet daily.

"The margin of safety and the diuretic index is certainly an improvement over the use of oral mercurial diuretics."[1]

Avoiding "Peaks and Valleys"

A highly desirable effect, and one which has been made possible with Rolicton, is the maintenance of continuous diuretic effectiveness day after day over an extended period, to avoid the up-and-down weight pattern typical of other edema-control methods.

"There was an obvious stabilization of weight in practically all of the patients under observation, and previous wide fluctuations in poundage disappeared."[2]

Mercury-Sparing

Typical of the Rolicton diuresis pattern is the ability of the drug to reduce and, in a large percentage of patients, to eliminate the need for mercurials parenterally.

". . . the drug represents a most useful addition to our armamentarium in the treatment of edema, not only because it can be given orally . . . but more so because it permits [us] to replace or to spare the . . . mercurials."[3]

G. D. Searle & Co., Chicago 80, Illinois.
Research in the Service of Medicine.

1. Asher, G.: Personal communication, June 23, 1956.
2. Settel, E.: A Clinical Evaluation of a New Oral Diuretic, Rolicton, Postgrad. Med., Feb. 1957, in press.
3. Goldner, M. G.: Personal communication, June 29, 1956.

SEARLE

TOPICS OF *Current Medical* INTEREST

FREEDOM IN MEDICAL PRACTICE

By Dwight H. Murray, M.D., President
American Medical Association

ALMOST six months have elapsed since we last met to deliberate and act on medical affairs. The time has passed quickly, but not quietly.

The rumble of war and revolution has resounded in our ears. The din from political battles has been deafening.

All of us . . . sooner or later . . . learn that today's events do not just swirl around us, but involve each of us. As doctors we cannot get away from them by claiming that our only interest is in the sick, and that we cannot be bothered by political, social and economic problems. These matters demand attention from the doctor as well as the lawyer, the businessman, the newspaper editor, the labor leader and the worker.

If we are concerned about what happens on the international, national and local fronts — and we should be — then certainly we cannot afford to be disinterested in what happens in our own area of health and medical affairs. Yet there is apathy in our ranks.

Today there is a greater need for a united, forceful and informed profession than ever before. We have been caught in the throes of a social revolution which demanded something for nothing. Changes have been taking place all around us, and medicine has not escaped unscathed.

For example, in a few days Public Law 569, the bill providing medical care for military dependents, becomes effective throughout the land. Contracts already have been signed with the government by the majority of our state societies. No longer can any doctor claim that this law does not affect him. No longer can he say that government laws really are not changing the practice of medicine.

Public law 880, better known to all of us as H.R. 7225, is another case in point. Medicine now is facing the problem of protecting the taxpaying public from abuses and of cooperating with the government to carry out the provisions of the law. The law is now on the books, and we must provide the leadership necessary to make it work as well as possible.

Dwight H. Murray, M.D.

It was encouraging to hear Ezra Taft Benson, secretary of agriculture, say last week before the American Association of Land Grant Colleges and Universities:

"Sooner or later, the accumulation of power in a central government leads to a loss of freedom. . . . Raids on the federal treasury can be all too readily accomplished by an organized few over the feeble protests of an apathetic majority. With more and more activity centered in the federal government, the relationship between the cost and the benefits of government programs becomes obscure. What follows is the voting of public money without having to accept direct local responsibility for higher taxes. . . .

"If the present shift of power from state to federal authority which started 25 years ago is allowed to continue, the states may be left hollow shells."

It was encouraging to hear such comments from a member of the President's Cabinet. I

(Delivered at the opening session of the House of Delegates at the Clinical meeting of the American Medical Association in Seattle, Washington, November 27, 1956.)

only wish that all members of the official family, and more important, every member of the United States Congress, felt the same way.

The expression of this philosophy, with which medicine so heartily agrees, sounds good, but putting it into practice is the thing we are really interested in.

Today the medical profession along with business and industry is caught between those who desire to promote sound government and those who desire even more intensely to perpetuate party power. Unfortunately, in recent years a benevolent federal government appears more attractive to the voting public than the preservation of individual freedom. Medicine must do its utmost to reverse this trend.

MEDICAL FREEDOM ESSENTIAL

In my travels around the country as your representative the last 18 months, I have seen little dissension or rancor within our ranks. However, I must report that I have seen too much complacency over governmental encroachment into medical affairs. And I am deadly serious when I say to you that apathy by the few, or by the many, can be detrimental to all.

No nation can merely reap the benefits of freedom; it also must sow seeds of freedom.

In medicine the situation is the same. If an apathetic medical profession takes its freedom for granted, it will be the beginning of the end. A strong, free profession must work for freedom so that it may live in freedom. And history tells us that once medicine loses its freedom, other fields of private endeavor are immediately in danger.

I do not wish to paint a dark or distorted picture of medicine's free status and its stature in America today. But I do believe words of caution and an appeal for vigilance are in order.

The road of apathy and disunity can only lead to disorder and perhaps disintegration, and we must sound a warning to all our colleagues who don't care, or who are pulling in the opposite direction. The road of alertness, action and unity is the proper road for all of us to be traveling together.

If I had just one wish for the coming year, it would be to command the time and talents of the 160,000 physicians in the American Medical Association. I would set us all to the task of emphasizing and re-emphasizing the absolute necessity of patient and professional freedom.

PATIENT'S RIGHT TO CHOOSE HIS DOCTOR

I believe it is one of our prime responsibilities to prove to our patients that their right to choose their doctor is a most important one.

Free choice brings a bond of confidence between doctor and patient which no compulsory medical system can create. It means that the patient knows the physician will be interested in him as a person, not as just a serial number of the 2:45 appendicitis case.

For the doctor, free choice means that the patient has selected him for his abilities, training, sincerity and personality. When a patient comes into my office, I know he has made a choice. And from that moment there begins a physician-patient relationship of the highest order. To me the patient is someone special, and I in turn hope I am someone special to him.

Once the patient has made his choice, the physician automatically assumes an unqualified responsibility to the patient. No system of medical care that uses a third party to bring doctor and patient together can match our kind of cooperative performance for the treatment of illness, the cure of disease and the betterment of the patient's health.

Freedom to select a doctor is part of everyone's great freedom to choose – to choose what he wears and eats; where he works and worships, and how he votes. Take away any part of this freedom and great damage is done to our democratic system.

FREE CONDUCT IN MEDICAL TREATMENT

Another freedom closely tied to freedom of choice is freedom in the conduct of medical treatment.

At the recent meeting of the World Medical Association in Havana, Cuba, Dr. Rolf Schloegell of Germany made a stirring defense of free conduct of medical treatment. He told us that the medical profession believes the attending physician alone is competent to decide what measures he deems necessary and will apply in order to bring about the desired improvement. He warned too of the danger of excessive restriction on the freedom of the patient and the attending doctor.

Yet the trend toward extending social security in the medical care field has been steady and

has accelerated since the end of World War II.

The dangers of shifting responsibilities for medical care from the patient and doctor to the doctor to the government are obvious. The caliber of medical care cannot be as high when both patient and doctor are dependent upon government. Initiative succumbs to dictation, and self-reliance is replaced by the crutch of government.

We do not deny that there is an area of legitimate concern by the government for the health and welfare of the people. But each year government seems to extend that area. We get some idea of this expansion from the new federal medical budget.

This year, according to our Washington Office, the average family will be paying $54.61 for the U. S. Government's health and medical activities. And the total expenditures this year amount to 2½ billion dollars — 290 millions more than last year. Even in an over-all federal budget of 61 billion dollars, the total health cost of 2½ billions is not insignificant. It is a billion dollars more than the cost of running the Commerce Department, half a billion more than the Agriculture Department's and six times more than the Interior Department's budget.

Many expenditures obviously are necessary to keep up our unsurpassed public health standards, and research may pay rich dividends in scientific discoveries. But there is no doubt that much money is being spent on medical activities that should not involve government participation.

The trend is to spend more and more government money on health and medical matters because it is good politics. Apparently many Americans still want to see government in the role of a big brother, dishing out so-called gifts and bargains under the guise of benevolent economic planning.

I believe it is our duty, as it is everyone else's, to combat the attitude of "what's in it for me?" and to promote the long-honored creed of "what's best for all Americans and our free society?" I think that a nation can draft into state medicine inch by inch just as surely as if the scheme were foisted upon a people overnight. The "drift" method may take longer but the result will be the same.

So it is time all of us sounded the alarm against soft and superficial security and against the invasion of personal responsibility. It is time we stood up together for militant freedom and for full rights and responsibilities of the individual.

BELGIAN DOCTORS TURN BACK GOVERNMENT

There is no better example of what a unified medical profession can do than in the story of the recent fight of the Belgian doctors against the government's proposals for a state service of medicine.

Without consulting the medical profession the Belgian government proceeded to draft rules and regulations of health to be incorporated in the nation's social security legislation. Under the proposals doctors were to sign an agreement to abide by the present rules and any later regulations. For the patient there would be the usual red tape in getting medical care.

When the Belgian doctors learned of the scheme, they met in conference with the government. They told the government what they wanted and what they would not accept. The government agreed.

For several months everything was quiet. Then the Belgian doctors suddenly read about the new health bill that the government was sending to Parliament. It was quite contrary to the earlier agreement worked out by the profession and the government. But the bill was passed quickly.

The Belgian medical profession protested and said it would not be placed under the Ministry of Labor. Instead the doctors proposed to set up their own plan of medical assistance.

Before long, the government saw that the medical profession meant business and that the doctor's plan was an an attractive one. So it declared that its own bill was not in force and could not be in force without the consent of the medical profession.

To me this fight against legislative intervention in medical care is excellent evidence that the profession can defend itself if it unites to defend the basic principles of freedom and if it offers constructive proposals. By using the Belgian national motto, "In union there is strength," the medical profession showed doctors everywhere that dangerous government plans can be turned aside by the strong.

I also read recently in the Journal of the World Medical Association of the fight of the medical profession of Malta against a British

government scheme to introduce a full-time salaried medical service, without the right of private practice, on an island dependency of Malta. Here again the doctors reacted with unity and strength, and successfully thwarted the government's plan.

There is a lesson in these stories from Belgium and Malta. They prove that a unified profession has a great political power for good — the good of the patient, the doctors and the nation.

CONFIDENCE AND UNDERSTANDING NEEDED

While we are developing unity within our own ranks, I believe it is equally important to continue to build up the confidence and respect of our patients and to make our legislators aware of the necessity for freedom in medical practice.

Let us never reduce the quality of service we render to our patients, and never lose the personal touch in medicine. Where there is any opportunity to improve upon our medical care, let us seize it and show our abilities to do an outstanding job. Satisfied patient-customers will give us deserving support when we need it.

We also should realize that the destiny of medicine can be determined to a large degree in the halls of Congress. If this be true, then it is even more important that we take an even greater interest in those who elect the Congressmen. Sympathetic understanding of our position by federal legislators through the voting public will be an insurmountable deterrent to the forces supporting state medicine.

The day has come, gentlemen, when we can no longer look upon medical economics and social changes merely as issues to be considered during our limited leisure hours. Our interest in them cannot be superficial or intermittent.

We now must pay daily attention to these matters. Medical socio-economic affairs can no longer be just incidental with us. They must be a vital part of our life and of our profession.

Each of us, I believe, should dedicate himself to the words included in the oath of office taken by Presidents of the A.M.A.

"I shall champion the cause of freedom in medical practice and freedom for all my fellow Americans."

As doctors, representatives to the A.M.A. and as spokesmen for the A.M.A., let's remember these words and live by them. And to alter a phrase of President Lincoln's only slightly: Let's make common cause to keep the good ship of medical freedom on this voyage, or nobody will have a chance to pilot her on another voyage.

STUDY OF MEDICAL SERVICE IN U. S.*

SOME 7,000 hospitals across the nation now have received questionnaires that may influence the course of medicine in the United States. Hospital construction, medical education, health insurance rates, public regard for doctors and health — all these are subject to beneficial revision when this massive five-year study is completed. The study is now at midpoint. It began late in 1953 when the A.M.A. undertook the gigantic task of measuring the total of medical service rendered to the American people by their physicians. This had never been done before. For once, there would emerge a national picture of what the patient gets for what he spends — and not the cold, misleading stroke of a statistician's pen sketching only a dollar sign.

*This is Bureau of Medical Economic Research Publication M-107.

RX., DX., AND DRS.

By GUILLERMO OSLER, M.D.

A PRELIMINARY (newspaper) story says that the New York State Journal of Medicine carries a report by Drs. Max Jacobson and Charles Ressler of a successful therapy for HEPATITIS. . . . They used a combination of cortisone and antibiotic treatment which cleared the disease in 12 patients within a week or two. The usual therapy requires weeks to months. . . . We insert our two cents worth and urge two considerations, — the series is a small one; the patients should have a chest x-ray to rule out TB if intensive steroid therapy is to be used.

If we had 240 hours in each day, and only 8 hours of work to do, we'd be able to read such books as Fleck's 'SYNTHETIC DRUGS: A Handbook for Chemists, Physicians, and Pharmacists'. . . . Reviews of the book (since we don't have the 240 hours) say that it not only gives a concise, lucid summary of the CHEMISTRY OF DRUG MANUFACTURE, but a preface on the disease for which each drug is used. . . . It is necessarily short on newest antibiotics and steroids, but for $12.50 it gives you a couple of thousand years of work.

The incidence of HISTOPLASMOSIS INFECTION, as shown by skin-test, in the area just south of the midwest is astounding. It is especially so since it was almost unknown a dozen years ago. . . . A central geographic core composed of Southern Illinois, Southern Indiana, and all of Tennessee, Kentucky, and Missouri is the most involved area. Between 70 and 90% of the adults show histoplasmin skin-sensitivity. . . . An area around this core, but extending farther south into Louisiana and Mississippi, shows 45 to 55% reactions. . . . Concentric areas around this second layer show a reduced incidence, with the New England, southeast, upper midwest, Rocky Mountain, southwest, and far west being listed as '0 to 10%'. The testing program is being carried on in schools, hospitals, sanatoria, and whole communities.

It is both fun and profitable to scan thru copies of ARIZONA MEDICINE for the past 7 or 8 years. (If you don't save them you should). . . . One can see the progress of medical ideas and practice in Arizona more quickly there than any other way. One can see the imprint of the several editors as the years go by, — Drs. Milloy, Foster, Neubauer. All good, each somewhat different. . . . One can also see the fine hand of John McMeekin, praised in print in 1954, and worthy of another laurel wreath (in case he hasn't had a raise.)

Outstanding MEDICAL NEWS IN SPORTS (or sports news in medicine) is to be found in SCOPE WEEKLY (Upjohn). A recent issue contained the story of orthopedic and surgical conferences in one of the greatest fracture cases in years, — the cannon bone in the leg of Swaps, the 1956 'Horse of the Year'. . . . The x-rays were beautifully clear. The progress history was good. The technic of treatment was amazing, with a reinforced leg-cast, a body-sling to hold the leg off the ground, etc. It is interesting to know that screws and pins cannot be used on the weight-bearing bones of a horse, since no metal will support such an animal.

Another contact with our veterinary friends has been "Q-FEVER". The Wisconsin State Lab. of Hygiene (Dr. Stovall) has released the report of a three-year survey of dairy herds in eight counties in the southeastern part of the state. The study was done with the cooperation of the state-federal veterinary department. . . . Q-fever may be transmitted to man by milk or dust; 29% of the herds, and 8.6% of the cows were infected. . . . Pasteurization temperatures now used on milk effectively kill the organism. . . . The farmers have always had some kind of bacterial cross to bear. First it was TB, long since eliminated from that state. Then it was Bang's disease. Now it seems to be Q-fever.

LUNG BIOPSY has been made to seem more feasible by the report of Klassen of Ohio State. He did a biopsy in 120 cases where doubt existed after all other tests had been done. . . . The procedure was like that of a liver biopsy; the approach was made thru the 4th or 5th intercostal space; a blood loss of less than 50cc occurred; and there were no fistulae, even in tuberculous patients, due to instillation of chemotherapeutic agents.

A group in Los Angeles has reported a series of 10 patients (in CALIFORNIA MEDICINE) with advanced metastatic carcinoma of the breast. They were treated with BILATERAL OOPHORECTOMY AND ADRENALECTOMY. . . . Several points in the report give one reason to pause, — "gratifying clinical remissions" occurred in only 3 cases; the remaining 7 died of metastatic disease; indications for adrenalectomy before menopause are candidates who had a previous clinical remission from oophorectomy and then relapsed; the indications after menopause are not clear; and the management of 10 cases required a team of surgeons, an endoctrinologist, radiologist, and pathologist.

This column contained a fairly long analysis of 'CHEMOSURGERY' about 4 years ago. It is the method developed by F. E. Mohs of the University of Wisconsin, and there are few people trained in its use in the U.S. . . . Now C. C. Thomas Com-

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MEDICAL DIRECTOR
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Dear Doctor:

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DRG:sk

pany has published Dr. Moh's "Chemosurgery in Cancer, Gangrene, and Infections', a 314 page book which costs $14.50. . . . I think if I had a 'rodent ulcer' of the face, or a necrotic toe, I would prefer this method of removal to any other.

If the National Vitamin Foundation is a synthetic group composed of people who make and sell vitamins, and if the objective of their public relations representatives is to stimulate discussion on the subject by responsible groups, then they have a good start. . . . The University of Michigan has just been host to a "Symposium on Endocrines and Nutrition". The papers had to do with diet and thyroid function, diet and adrenal function, and endocrine effect on vitamin requirements.

This column mentioned a future 'M.D. Medical Newsmagazine' last summer; retracted the mention (as a joke) at the request of M.D.'s. editors; and now, with their permission, mentions the journal again. It will be published sometime in the next few months, says Dr. Felix Marti-Ibanez, president of M.D. Publications, Inc. . . . . The pilot-copy which we saw was not then supposed to be secret; it was very good, with a format like TIME Magazine; and it was quite unlike some of the other mags published by the parent company ('Antibiotics and Chemotherapy', quarterly reviews of several specialties, etc.). Some of these are dull and lonesome-looking journals, and one wonders at their function, and at the contrast with 'M.D.'

A panel session on TREATMENT OF THE COMMON FORMS OF ARTHRITIS was presented in the Ohio State Medical Journal for October 1956. Steroids, aspirin, etc., were discussed, but the conclusions on gold and phenylbutazone were most interesting. . . . There were five questions about gold. Gold therapy is still used in many clinics. With small doses and careful supervision toxic symptoms, though occurring in 30 to 40 per cent of the cases, are not serious and can now be successfully combated. The effects of gold are slow to appear but remissions following the use, although not permanent, may last for several years. Gold is particularly indicated after conservative measures have failed and steroids have proven ineffective. . . . There was lively discussion about phenylbutazone. The concensus was that it is a toxic, dangerous drug, highly overrated and which has limited value in peripheral rheumatoid arthritis, being effective in only 20 to 30 per cent of cases. It is very effective in acute attacks of gout where it should be used in large doses for short periods of time. Red blood cell count and differential white blood cell counts should be made every week for one month, every other week for three months and every month thereafter in order to detect the first signs of agranulocytosis. Phenylbutazone is sometimes effective for short periods in acute exacerbation of rheumatoid arthritis.

It requires a good, new, rolling cliche AGAINST THE USE OF TOBACCO to even get a hearing these days, since a great many mean things have been said and smokers apparently would keep on smoking if they grew a tumor on the end of their nose. . . . Dr. E. E. Menefee Jr. of Duke University seems to have hit the gong, however, when he told the Medical Society of Virginia "Victims of emphysema and chronic bronchitis HAVE TO CHOOSE BETWEEN BREATHING AND SMOKING!" . . . The use of filter-tips, pipes, and cigars is a temporizing measure, and will not do; they must give up tobacco completely. . . . And there's the rub. It's worse than trying to take food away from a fat person.

Twenty years ago was as recent as 1936, yet Health Information Foundation reports that three times as many PEOPLE ARE ADMITTED TO HOSPITALS each year as 20 years ago. The number of hospital beds has increased, but the turnover is responsible for the 21,000,000 admissions. . . . We are confused at times by the statements about the number of people in mental institutions, but they amount to only 2% of the total admissions; 95% go to general hospitals.

American physicians probably know less about HUNGARIAN MEDICINE than they have known about Hungary. . . . Chauncey Leake of Ohio State, formerly of Texas U., urges that we help Hungarian science survive, and abstracts a dozen articles from 'Acta. Med. Acad. Sci. Hungaricae'. They include the free amino acid content of lymph; effect of hypoxia on kidney functions; fluorine content of saliva in gypsies; pneumonia as cause of newborn mortality; isoniazid as a cause of ascorbic acid depletion of adrenals; the effects of histamine on capillary permeability; etc. . . . They are research-minded and modern, but it seems hard to say how we can help them, even indirectly, right now.

HEALTH LEGISLATION

By Donald N. McLeod, M.D.

THE 84th Congress is now adjourned and during the past two years Washington analyzed and followed closely a total of 571 bills in the health fields, of which 25 were enacted. In the preceding congress 407 bills were reported and 20 became law.

Some of the more important bills which were passed include dependent medical care, career incentive pay, doctor draft extension, military status for public health service, and commissioning of Osteopaths. The above five bills may be included under military legislation.

Dependent medical care, better known as medicare, came into effect in Arizona on December 7, 1956. The doctor draft extension extended the draft act until July 1, 1957. Under Public Law 763, Osteopaths are now eligible (on a permissive basis) for the first time for medical commissions in all the military services.

Under public law legislation the health amendments (Omnibus Act, National Health Survey, Salk vaccine grants, Alaskan mental health, water pollution control, air pollution control, and Mental Health Survey) bills were passed. In the Health Amendments Act the following are provided: 1. An extension for two years beyond next July 1st of the Hill-Burton Hospital Construction Program, 2. Grants to states, groups, and individuals for research in mental health, 3. Trainee-ship grants for public health personnel, 4. Trainee-ships for graduate nurses, and 5. Earmarked funds for practical nurse training. The original Eisenhower Omnibus Health Bill included the twice rejected health re-insurance fund and mortgage loan guarantees for health facilities.

Other acts of general interest include laboratory research construction, a National Library of Medicine, narcotics control, and the Social Security amendments. This last controversial bill, which came within one vote of being defeated in the Senate this year, calls for a separate fund for payments to workers found totally and permanently disabled at the age of 50, an additional ½% payroll tax effective January 1st, 1957 and a ⅜% tax for the self-employed. It also includes dentists, osteopaths, lawyers, and other groups in the Social Security System and lowers the retirement age for women to 62. There is increased federal payment to the states for persons on public assistance rolls and earmarked payments to states for the medical care of public assistance recipients.

In the 85th Congress which started the first of the year bills are certain to include federal aid to medical education, federal workers' health insurance, pooling arrangements among small health insurance companies, federal aid to local public health units, mortgage loan guarantees to private medical facilities, and controls over barbiturates and amphetamines.

Another item of interest is the amount which will be spent by federal medical health for the fiscal year of 1957. This year United States is spend in health fields alone, an average cost of $15.17 per man, woman, and child. If wage earners are only considered they will be paying on the average of $38.72 each to finance the government's health-medical operations. This is $4.40 more than they paid last year. The total amount to be paid out in the year 1957 is $2,558,168 which is distributed among 21 federal department agencies. In this spending the medical cost of Veterans Administration tops the list with the Department of Defense being second and the Department of Health and Welfare coming third. The Hill-Burton program is part of this latter agency.

LEGISLATIVE COMMITTEE

By L. D. Sprague, M.D.

THE LEGISLATIVE Committee of the Arizona Medical Association, Inc. met at the Westward Ho Hotel, Phoenix, Arizona on November 4, 1956. Doctors Wick and Duisberg presented to the Committee for discussion the proposed draft of the Mental Health Bill intended to amend the present Commitment Procedures Act. Following a lengthy discussion, review of the various provisions of the proposed bill and analysis of its many implications both favorable and unfavorable, the Committee moved that further consultation with legal counsel be obtained and some modification of the bill in its present form be ready to present to the Council of the Association.

Following a discussion in regard to the need of a special board to pass on sterilization pro-

cedures at the State Hospital, the Committee moved to appoint a subcommittee to investigate and recommend a proper course of action.

A proposed amendment to Medical Practice Act to provide for a "restricted license" to be issued to certain doctors of medicine serving in federal or state hospitals and/or public health departments was referred to legal counsel.

The Committee referred also to legal counsel for study and investigation, the problem of accepted standard nursing procedures as applied to nurses, interns, aides and other hospital employees which might be considered in violation of the Medical Practice Act. Legal counsel to report to the Committee at a future meeting its findings in this regard.

A letter from counsel for the Arizona Hospital Association relative to "rendering of unauthorized services by anesthesiologists" was reviewed. No action was taken by the Committee in view of the requirements of the Joint Committee on Accreditation and the College of Surgeons covering such services.

The State Medical Examiners System was discussed and the Committee moved that a group of pathologists be appointed to review the entire coroner system of the State of Arizona and recommend legislation if such is deemed necessary.

The Committee moved to lend reasonable support to the action of the Council of the Arizona Medical Association to the Occupational Disease Disability law and possible amendments there-to.

Discussion was held relative to the Communicable Disease Regulations and the serological examination referendum. No action by the Committee was indicated.

Dr. Nelson D. Brayton, Legislator from Gila County, presented his views on legislation which he considered important including, Air Pollution, Mental Commitment procedures, Alcohol Tax, House Bill No. 242 (introduced before the first session of the legislature) and the Financial Responsibility Bill which was also introduced during the last session of the legislature. Dr. Brayton recommended that the Association consider distribution to its members copies of legislation of interest to the medical profession as they are introduced.

PRESS-RADIO-TELEVISION CODE OF COOPERATION

Adopted in Principle by the Council of the Arizona Medical Association, Inc.

IN CONTACTS with the press, doctors need only remember to be friendly and courteous, and keep in mind the suggestions made in this Physicians Press-Radio and Television Code, which outlines what a doctor can ethically and legally reveal about a patient and his condition. In order to avoid the possibility of being misquoted, be sure to ask the reporter to read back his notes to you. Spell and explain any medical terms which you feel need clarification.

The Association's Executive Secretary functions as a clearing house for information requested by the press, and refers the reporters to those members of the Public Relations Board best qualified to provide the desired information. If you are uncertain as the proper policy on matters not covered by the Physician's Press Code, call the Executive Secretary who will advise you as to the proper procedure. If a policy has not already been established on the point in question, he will secure a ruling on the subject.

Doctors should realize that lack of facts sometimes forces a reporter to complete his story without authoritative information. Therefore, the doctor should give the reporter all possible information within the limits of the Code. The Physician must not infer that he alone has the cure for any certain disease. It is suggested that when a doctor has been called direct, and information is given to a reporter, that the Executive Secretary be notified in case there should be further developments.

The officers of the Association, Board Chairmen, or designated spokesmen of the Association, may be quoted by name in matters of public interest for the purpose of authenticating information given.

CONCERNING PRIVATE PRACTICE

The wishes of the attending physician or surgeon shall be respected as to use of his name or direct quotation, but he shall give information to the press and radio where it does not jeopardize the doctor-patient relationship or violate the confidence, privacy or legal rights of the patient.

If the patient is conscious and can communicate with the doctor or nurse in charge, or with relatives, he should be asked whether he will permit any information to be given. The patient's decision is final, except in cases of disaster where the doctor's judgment should prevail. If the patient is unconscious, the information outlined in the Code may be given without the patient's consent.

The one exception in this Code relating to information concerning private patients is Section 3-c, involving head injuries. A doctor should not make any comment as to the severity of head injuries, EXCEPT WHEN CONDITION IS DEFINITELY DETERMINED.

If the private patient agrees to permit information to be given, the doctor should strictly adhere to the procedure outlined in the Code.

CONCERNING POLICE CASES

All of the information outlined in the Code may be given without the patient's consent.

PRESS CODE. Information a Physician May Reveal to Press

1. Name: (a) Married or single, (b) color, (c) sex, (d) age, (e) occupation, (f) firm or company employing patient and (g) address.

2. Nature of the Accident: (a) injured by automobile, explosion, shooting; (b) if there is a fracture, it is not to be described in any way except to state the member involved, and (c) more than a statement that it is a simple or compound may not be made.

3. Injuries of the Head: (a) a statement which simply indicates that the injuries are of the head may be made; (b) it may not be stated that the skull is fractured; (c) no opinion as to the severity of the injury may be given until the condition is definitely determined, and (d) prognosis is not to be made.

4. Internal Injuries: (a) It may be stated that there are internal injuries but nothing more specific as to the location of the injuries, and (b) it may be stated that the condition is very serious or critical.

5. Unconsciousness: (a) If the patient is unconscious when he is brought to the hospital, a statement of this fact may be made; (b) the cause of unconsciousness, however, should not be given.

6. Cases of Poisoning: (a) No statement is to be made that a patient is poisoned; (b) no information as to kind of poisonous substance, such as mercuric, chloride, phenol or carbon monoxide may be given; (c) no statement concerning the motive, whether accidental or suicidal, may be given, and (d) no prognosis may be made.

7. Shooting: (a) A statement may be made that there is a penetrating wound, (b) no statement may be made as to how the shooting occurred, i.e., accidental, suicidal, homicidal or in a brawl, nor may the environment under which the shooting occurred be given.

8. Stabbing: The same general statements may be made for stabbing as for shooting accidents.

9. Intoxication: No statement may be made as to whether the patient is intoxicated or otherwise.

10. Venereal Disease: The fact that a patient may have a veneral disease is his own private affair and should not be revealed to the press.

11. Burns: (a) A statement may be made that patient is burned, also the member of the body involved; (b) a statement as to how the accident occurred may be made only when the absolute facts are known, and (c) no prognosis may be given.

12. Attending Physician: Hospitals may give to the representatives of newspapers the name of the attending physician of private patients and refer such representatives to the physician for information about the case, but the newspapers shall not use the name of the physician without his consent. (a) The hospital staff may give information to the press on the condition of private patients, if such information has been made available to the staff by the attending physician.

13. Pictures: When newspapers request the privilege of photographing a patient in the hospital, such permission will only be given (a) if in the opinion of the doctor in charge of the case, the patient's condition will not be jeopardized, and (b) if the patient (or in case of a minor, the parents or guardian) are willing to have a photograph taken.

14. Deaths and Births: The death of any patient is presumed to be a matter of public record. Where the patient dies in a hospital, the hospital spokesman should make the announcement. Births likewise are a matter of public record, and when they take place in a hospital, the hospital makes the announcement. A doctor

should not release any information concerning a birth without the mother's consent.

15. Public Personalities: In a case where a public personality in whom the public has a rightful interest, the nature of the illness, its gravity, and the current condition of the patient should, whenever possible, be revealed if the patient or his family will give their consent. If it appears to the doctor that such information would not harm the patient in any way, he should endeavor to secure authorization from the patient or his family for release.

In cases of unusual injury, illness, or treatment, and any scientific information which will lead to a better public understanding of the progress of medical science, the physician should advise the Medical Association so that appropriate information may be released for publication.

RADIO AND TELEVISION

For purposes of clarity the medical association outlines the following principles to guide physicians who appear on TV or radio programs.

(a) Doctors of medicine are expected to refrain from sponsoring products directly or by implication that are not accepted by the medical profession; i.e., patent medicines.

(b) When introduced as a doctor, such individual can not escape the implication of representing the medical profession and his conduct should be in keeping with the high standards of the profession.

(c) Sound judgment, good common sense and adherence to the Principles of Professional Conduct are expected of any physician when appearing on radio or television in whatsoever capacity.

CIVIL DEFENSE

SPEAKERS at the Seventh County Medical Societies' Civil Defense Conference, held in Chicago, were in complete agreement on one point: physicians will have to revise their attitudes concerning patient care in case of a large-scale national disaster.

The Conference, which was sponsored by the A.M.A. Council on National Defense, was attended by representatives from 115 county medical societies of 30 states. There were several panel discussions covering a wide variety of problems associated with medical care during a national disaster. In connection with patient care, speakers agreed that:

A doctor will have to learn to sort his patients, reversing the old tradition of treating the most seriously injured first. Instead, he will have to treat first those needing the least amount of care, leaving those requiring complicated time-consuming procedures until later. This, it was explained, will assure early return of the greatest number of persons to some form of duty — either combat or rescue.

In addition, the speakers agreed, doctors will have to realize that much of the medical attention and care will have to be given by persons outside of the profession because there won't be enough doctors to go around. For this reason, speakers urged that first aid training programs for lay persons get underway immediately.

And, the speakers said, too, doctors working at full speed during any emergency will have to play the role of psychiatrists since they will see many people who are not actually hurt, but who will be suffering from what is known as "disaster fatigue," a condition described as a temporary breakdown of emotional control. They usually recover in a short time.

The conference was also told that so-called "support areas" should give serious thought to stockpiling of necessary medical equipment, and training first-aid workers. A "support area" embraces cities and towns 30 to 50 miles from a target.

The conference adopted two resolutions for subsequent action by the A.M.A. Council on National Defense. One recommended that narcotic repositories be set up within each state to insure an available supply immediately in case of a national emergency. The other urged appointment of an assistant administrator in the Federal Civil Defense Administration who would be responsibile solely for the handling of medical matters.

Book review "Epileptic Seizures" that appeared in the December, 1956 issue of Arizona Medicine on page 541 was reviewed by Robert A. Price, M.D.

God and the doctor we alike adore
When on the brink of danger, not before.
The danger passed, both are alike requited
God is forgotten and the doctor slighted.

Euricius Cordus
Translated by Chauncey Leake.

MANAGEMENT OF MASS PSYCHIATRIC CASUALTIES*

Albert J. Glass, Colonel, MC
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IN THE event of atomic warfare, military medicine will be confronted with the difficult task of caring for mass casualties which in numbers and rapidity of production far exceed any of its previous experiences in conventional combat. Part of this medical responsibility will consist of relatively uninjured persons with varying degrees of mental incapacity due to the psychological trauma that inevitably accompanies exposure to massive physical destruction. This aspect of the management of mass casualties assumes major military significance in atomic attack for only by the efforts of physically intact survivors can there be prompt life-saving aid and rescue of the severely injured or effective reorganization for defense against an immediate enemy assault to exploit the tactical situation.

A reasonable forecast of the mental abnormalities to be expected under conditions of nuclear warfare can be inferred from past experiences with similar episodes of catastrophic trauma. Relevant data for this purpose are available from: (a) conventional combat, (1) (2), (b) civil disasters, (3) (4), (c) aerial bombardment, (5), and (d) atomic bombing of Hiroshima and Nagasaki. (6) (7) (8) Analysis of the foregoing traumatic situations permit the following general conclusions relative to behavior under severe external danger, irrespective of the causative agent or the culture of the individuals involved.

1. Instances of mass panic are relatively uncommon and mainly occur under circumstances where there is partial entrapment. (9)

Panic is usually defined as uncontrolled flight behavior or frantic purposeless activity. Favorable conditions for mass panic are established when a poorly led or an unorganized aggregation of individuals are faced with presumed or actual imminent destruction in an environment where there is a rapidly narrowing or limited escape route but one believed open to safety. Under these circumstances, there is precipitous flight to and if possible through the escape channel in order to avoid entrapment. But when the escape route is closed or becomes jammed, the momentum of the original drive toward safety continues its forward urging force with blind irrational activity. Such panic behavior quickly becomes widespread. Individuals involved are pushed and trampled upon, and rational thought is lost as other possible means of escape are not explored or utilized if available. It should be recognized that precipitous flight to avoid an immediate threat is not panic so long as such behavior is controlled or directed away from danger. Indeed, instantaneous flight may be the best adaptation for survival in many traumatic situations.

2. Major and persistent mental illness, such as psychoses, prolonged depressions and chronic neuroses are not produced by the psychological trauma of acute catastrophic events. The incidence of these psychiatric diseases was not increased by frequent aerial bombardment in England, Germany, and Japan during World War II. (10) (11) (12) Nor did such cases arise in any appreciable numbers from, conventional combat, civil disasters, and the atomic destruction of Hiroshima and Nagasaki. Apparently, the classical mental disorders are caused mainly by internal psychic conflict rather than external danger.

3. Any temporary breakdown of self-control is the characteristic and most frequent psychiatric abnormality noted in traumatic situations. (13)

This transient mental disorder is a direct consequence of external stress and commonly occurs during or shortly after the danger impact although cases may originate in the anticipatory period of threat prior to actual trauma. Individuals so affected, exhibit disturbances of function that vary in severity from stunned mute behavior or uncontrolled purposeless movement, to trembling helplessness, apathetic depressed states, inappropriate activity, or preoccupation with bodily discomfort due to increased emotional tension. Typically, such disorders are

* Presented at the 62nd Annual Convention of the Association of Military Surgeons of the United States, Washington, D. C., 8 November 1955.

fluid, changeable and self-limited, lasting for minutes, hours, or days.

4. Most, but not all persons experience disagreeable somatic and/or psychic sensations of fear when exposed to severe external danger. (14) (15)

The presence of fear does not prevent effective and even courageous activity. However, the accompanying subjective discomfort of fear can only hinder rather than aid the individual in his adaptation to a stressful environment. It is believed that a sufficient intensity of fear with its painful inhibitory effect is the usual precursor out of which arises the temporary mental disruption that is characteristic of major trauma. Therefore, measures to reduce the incidence of fear reactions are of vital importance in the prevention of non-effective behavior due to psychological reasons.

5. States of increased apprehensiveness frequently follow intimate personal involvement with catastrophic trauma. (16)

These residual reactions exhibit undue sensitivity to these external stimuli which can be associated with the previous traumatic episode. Usually such apprehensiveness does not prevent effective function, but in some persons the resultant increased level of anxiety produces insomnia, heightened irritability, poor appetite, weight loss and diminished work efficiency that may persist for many weeks. Individuals with severe apprehensiveness may absent themselves from work in a potential target area or seek relief by moving to a place of presumed safety. Residual anxious states are most apt to arise in persons who suffered intense fear, helplessness, or emotional breakdown during the traumatic event. In most individuals, such chronic apprehensiveness gradually diminishes over a period of weeks or months.

6. Docility and increased suggestibility are common behavioral characteristics of persons under disaster conditions. (17)

The fact that most participants of a dangerous or threatening situation can be readily influenced has important implications for the employment of communication facilities and leadership in the prevention of non-effective behavior.

The material thus far presented clearly indicates that the principal psychiatric problems produced by intense danger include temporary states of mental breakdown and residual sequelae of chronic apprehension. Similar psychological difficulties should be expected in atomic warfare. Before considering the management of the above psychiatric disorders, it will be profitable to explore the mechanisms behavior under stress in order to establish a rational basis for the methods of prevention and treatment that are proposed in this presentation.

Behavioral responses to environmental change can be regarded as a function of the communication process both within and outside the person. For explanatory purposes, the individual's communication or mental process relative to external stimuli, can be divided into three sequential time phases, namely perception, evaluation, and initiation of action. Usual or innocuous environmental changes generally evoke rapid appropriate responses when needed, in which the evaluatory component of the mental process plays little or no role as such, because of automatic decision making mechanisms that have been established by prior learning. However, new and abrupt external change requires the function of evaluation and, consequently, there is an appreciable time lapse exhibited by most persons in their response to unusual stimuli. When an abrupt environmental change is associated with a serious threat to life, the mental process is significantly altered so that the response may be either accelerated or inhibited. This well known and seemingly paradoxical phenomenon has been explained (18) by assuming that danger first produces an alerting action which operates simultaneously upon the several components of the mental process to: (1) focus attention only upon the pertinent elements of the threatening environment, thus narrowing the field of perception, (2) facilitates evaluation so that rapid decisions can be made, and (3) mobilizes the bodily systems for heightened and sustained activity. In brief, the alerting action is an effective biological mechanism which prepares the person for the traditional flight or flight patterns of behavior that are necessary for survival under dangerous conditions.

When an individual cannot cope with the threat either because of its magnitude, or other unalterable circumstances, or lack of confidence, then the urging force of alertment continues to press for action and reaches awareness as the distressing somatic, and mental sensations subsumed under the term, fear. Fear operates

to inhibit the mental process, perception becomes uncertain, and evaluation more difficult. Even minor decisions cannot be made, as exemplified by the frequent occurrence of docility and suggestibility noted among disaster victims. Similar inhibitory phenomena occur in the bodily sphere, as evidenced by weakness of the extremities, giddiness, constricted speech, and labored or difficult respiration.

On the basis of the above concepts supported by observations of combat and civil disaster, behavior under sudden impact of danger can be reconstructed as follows: In approximately 15-25% of persons subjected to an abrupt threat, prompt purposeful responses are evoked which continue into sustained effective action. (19) (20) These aggressive individuals apparently have an increased capacity for utilizing the facilitory properties of alertment to quickly grasp the revelant details of a dangerous situation and make rapid appropriate decisions which are promptly translated into immediate action. Such effective participants are usually "too busy" to remember experiencing subjective fear during the emergency period, although soon after the danger has passed, some may note fear reactions upon contemplating a narrow escape, while others seem excited or even elated as they repeatedly discuss the events that have recently transpired.

The remainder and majority of persons confronted with sudden danger are stunned and bewildered as they require an appreciable time interval to evaluate the threatening situation during which there may be quick involvement turning or crouching due to alertment. With the passage of varying but usually brief periods of time and a consequent better grasp and evaluation of their surroundings, most persons regain sufficient self-control to permit rapid goal-directed efforts such as movement away from danger. Military experience strongly indicates that with resumption of purposeful activity, fear is diminished or dissipated. When an individual responds correctly to the urging demands of danger, tension is discharged. Conversely, inaction under threatening circumstances fosters the building up of fear which further increases interference with internal communication and thus a vicious cycle is established with worsening behavior.

Psychological breakdown occurs in individuals subjected to severe trauma who are unable to respond with appropriate evasive or aggressive action and cannot tolerate the consequent intense fear or feeling of catstrophic disorganization. Individuals so affected do not suffer a literal breakdown of mental function, but regress to a more primitive behavioral pattern that permits a decrease of personal involvement with intolerable reality even though such behavior may be deleterious insofar as survival is concerned. The mute stunned reaction, common in disaster, illustrates the meaningful nature of these stress induced psychiatric casualties. Here the involved person is seemingly isolated from the chaotic situation by the apparent blocking of all incoming stimuli. Such cases are described as, blank, unemotional, dazed, unresponsive to questions and oblivious of painful injuries that may have been incurred. (21) Less severe forms exhibit childish dependent behavior manifested by helplessness, trembling, hysterical paralysis or marked docility.

Attention can now be directed to multiple elements of the traumatic situation which influence the frequency of psychiatric casualties.

1. Intensity and duration of the external trauma.

Increasing magnitude of danger reduces opportunities for effective response and thus a greater likelihood of fear reactions and psychiatric casualties. In traumatic situations of brief duration, favorable conditions are soon re-established for the resumption of effective behavior whereas with prolonged danger, it is increasingly difficult to maintain appropriate activity and thus a higher incidence of fear and psychological disorders is to be expected. Associated with the intensity of danger is the degree of personal involvement experienced, such as being knocked down by blast, buried in rubble, injury by flying missles and the like which has given rise to the concept of the "near miss" and the "remote miss." (22) Military and civil stress situations are replete with examples which demonstrate that the "near miss" experience is far more terrorizing than the "remote miss" episode which in contrast tends to promote confidence that the particular danger can be successfully mastered. Often present in a "near miss" event is the sight of mangled bodies, mutilation, and other injuries which are even more devastating when loved ones, friends, or buddies are involved. "Near miss" experiences which are not accompanied

by observation of injured casualties can be more easily tolerated.

2. Preparation and training.

It has been pointed out that failure of an adequate response to danger evokes inhibitory fear reactions that render the exposed individual vulnerable to psychological breakdown. Clearly, a built in or previously prepared appropriate behavioral response is required in most persons for effective adaptation under traumatic circumstances. Such preparation and training should include measures to be taken immediately upon awareness of atomic attack as well as evasive or defensive precautions that can be employed in any warning period that may be made available. Training of this type is similar to that required for fire, gas attack, ship disaster at sea, and other emergency situations where there is insufficient time for evaluation and a pre-set pattern of action is of prime necessity to prevent indecision, and helplessness. Training should also include sufficient knowledge of the effects of atomic weapons, the fall out problem, and practiced field methods of personal protection. Equipped with this information, the individual again deals with a predictable environment which, no matter how terrifying is less fearful than unknown danger. From the standpoint of prevention the single most important favorable influence upon behavior in atomic stress lies in training and preparation for such an eventuality.

3. Warning.

Even a brief warning period can enable prepared and disciplined groups to partially execute planned protective measures, along with mobilization of pre-set behavior for prompt action following the nuclear explosion. For untrained persons, a short period of warning before attack may precipitate indecisive flight or fear induced paralysis either of which is deleterious for effective function or survival.

Untrained groups necessarily require a longer warning interval in order to gain sufficient distance from the target area or receive information as to the best possible protection that can be employed under the existing circumstances.

4. Communication.

Human beings are poorly endowed insofar as sensory organs are concerned for the perception of danger unless their immediate surroundings have been radically altered. Significant minor or gradual changes are commonly overlooked or attributed to innocuous events in order to deny sources of anxiety that would disturb emotional tranquility. To overcome deficiencies in human perception, sensitive mechanical means of detection have been devised, but a communication network is needed to transmit the data thus obtained to all persons concerned. It should be apparent that much depends upon the efficiency of the communication system to transmit timely and accurate information.

Like perception, the evaluatory portion of the mental process is also commonly impaired under stressful conditions. Here too, communication can be a major influence in determining behavior by transmitting pertinent information required for adequate evaluation of the traumatic situation or by directing the specific action to be taken. Under stressful circumstances, experience has demonstrated that not only must the clarity and specificity of information furnished be of a high degree, but messages should be frequently repeated in order to counteract the disorganizing effects of fear which interfere with capacity for retention or recall of recent memory.

5. Leadership.

In emergency circumstances, the leader may be regarded as an essential link or agent of the communication system who interprets transmitted information together with data gathered directly from the environment and indicates to others by word and action the proper responses and behavior to be followed. Since persons under stress exhibit a temporary impairment of communication with the environment or within their own mental organization, they seem to be in poor contact with their surroundings and manifest a high degree of indecision, docility, and suggestibility. Under these conditions, the demand for guidance and information is so great that leaders would arise even if they are not formally designated. In fact, such "emergent" leaders have been regularly noted in civil disasters as well as in combat. (23)

6. Group identification.

Previous traumatic experiences indicate that individuals are better able to tolerate danger in the company of others who are similarly involved. In fact, persons confronted with a common menace literally and figuratively move toward each other for mutual protection and support. This phenomenon has been regularly

noted in combat and was also reported from England during World War II where community shelters were preferred over individual types of protection, despite the added personal discomfort. (24) From the standpoint of communication, members of the group serve each other as verbal and non-verbal sources of information that may initiate and maintain constructive activity or provoke apprehension and precipitate non-effective behavior. With continued sharing of common hardships and danger, there is produced a cohesiveness or unity of group members which in military operations have been found to exert a powerful influence for effective function during severe stress. Such group identification establishes a code of conduct that continues to operate even under catastrophic conditions. In effect, group unity tends to correct for personality inadequacies such as egocentricity, timidity, seclusiveness, and lack of consideration for others.

Prevention.

From the foregoing discussion of elements in the traumatic situation which influence behavior, it is evident that measures to lessen psychiatric disorders in atomic warfare lie within the province of command and cannot be a primary medical function. In this respect there is no essential difference between preventive psychiatry and other programs of preventive medicine in the military service which also require implementation that can only be initiated and maintained by command decision. The medical officer serves as a technical advisor to the commander in matters of physical and mental health. It is herein submitted that as part of this staff function, the medical officer should be familiar with the determinants of behavior under adverse circumstances in order to point out areas where remedial action is indicated and to perform such other advisory duties as may be necessary to assist the commander in conserving the effective strength from a psychological standpoint.

Treatment.

In considering the treatment of psychiatric casualties, it is important to reiterate the recognition that these temporary states of mental disruption are acute fluid adaptive reactions to danger which are self-limited and can be expected to begin improvement with the cessation of external threat. Methods of treatment herein proposed are derived from considerable experience with similar emotional disorders of combat (25) and are based upon the following operational principles.

1. Decentralization.

This axiom of therapy insists that treatment facilities be made available as soon as possible and as near as practicable to the scene of atomic disaster. Benefits that can be expected from a policy of decentralization include the following:

a. Treatment can be given early, during the fluid state when psychiatric casualties are readily influenced by suggestion and other simple measures to recover self-control thus circumventing the effect of time and continued helplessness from causing a fixation of the inability to overcome danger that is mainly responsible for sequelae of chronic apprehension.

b. Psychiatric problems are prevented from further taxing evacuation channels and hospital facilities which will be fully occupied with the physically injured.

c. Rapid restoration to duty at this level can provide manpower who are urgently needed for defense and rescue.

2. Expectancy.

This principle of therapy refers to the importance of verbal and non-verbal comunication addressed to patients by treatment personnel. It is based upon the previously stated marked suggestibility and indecision exhibited by psychiatric casualties. Thus, military experience demonstrates that situationally induced acute mental disorders worsen or improve depending upon what is expected of them by persons responsible for their treatment and disposition. A treatment environment which communicates tension, helplessness, or disability continues symptoms and non-effective behavior. Conversely, a calm acceptance of the patient and his manifestations as a temporary incapacity from which rapid recovery is expected after a brief rest, can produce the desired improvement within hours, particularly when supervised or directed activity is promptly instituted to further confirm expectancy for recovery. Non-verbal attitudes and actions are far more effective than words in breaking through the communication barrier of patients. Expectancy for recovery is also communicated by the terms used to designate these disorders. Emotionally charged terminology such as shell shock, psychoneuroses, concussion, blast injury,

and the like imply severe mental or physical damage from which recovery is uncertain and residual defects are probable. Already the term radiation sickness has become quite well known and could readily come into widespread use as a catch all category for all manifestations in atomic warfare which do not fit a known medical entity. It is, therefore, imperative that terminology such as combat fatigue be continued for psychiatric casualties in atomic warfare since this designation fosters expectancy of a transient benign disturbance due to logical situational causes which is readily recoverable and leaves no permanent defect.

3. Brief simplified methods.

Any prolonged or involved treatment program either could not be adequately performed at a decentralized level or if attempted, would nullify the principle of expectancy by its implication of an illness sufficiently serious to warrant such an elaborate effort. Prior experience with complicated treatment techniques which rely upon drugs, prolonged bed care, subshock insulin, or frequent psychiatric interviews have indicated that only mediocre results were obtained despite the large outlay of personnel and supplies. On the other hand, a brief rest of several hours, along with measures to alleviate hunger, pain, and minor injury when performed at a decentralized level in an atmosphere of expectancy for recovery, provide the most favorable conditions for a resurgence to functional capacity. Drugs should be used sparingly and in small doses. Relaxation can be obtained with warm drinks of milk, cocoa, soup and the like. If time permits, there should be included, a brief interview period in which the patient is allowed to give freely his account of the traumatic event in order to facilitate the ventilation of emotionally charged feelings and attitudes that may be responsible for maintaining withdrawal from painful reality. Ventilation aids in re-establishing communication with the patient who can then receive information and be motivated to participate in the rescue or defense effort.

The last step of simplified treatment is directed or supervised work. With resumption of purposeful activity, communication is further improved, and reorientation to group and social obligations is facilitated.

A sufficient number of psychiatrists neither will be available for the management of mass psychiatric casualties nor does the operation of a simplified program require the services of such specialists. From the traditional military standpoint, the control of behavior under battle conditions is necessarily the responsibility of all persons charged with the function of leadership and medical care. As in previous warfare, milder instances of "freezing," indecision, helpless attitudes, or inappropriate activity can be best handled by commissioned and non-commissioned officers, buddies, and medical corpsmen who are optimally located in time and space to favorably influence or direct temporarily disorganized persons by word and action to assume a more effective role. The more persistent psychiatric casualties should be treated at the nearest medical facility which in a tactical situation is usually the Battalion Aid Station. If nuclear weapons are used against support or rear zones, it is likely that a hospital facility would provide immediate medical care.

In either event, the prompt treatment and restoration to duty of psychiatric casualties should be a recognized responsibility of the first medical facility to receive early cases of this category. In atomic warfare, the battalion surgeon must assume more and more the role of a front line psychiatrist in order to conserve the effective strength of his unit at a time when every man is vitally needed. Medical evacuation under such conditions will be a difficult procedure at best and initially should be reserved for the physically injured. Severe or persistent cases can be sent to the division psychiatrist at the clearing station level when transportation is available. The division psychiatrist should serve also as a professional consultant to other medical officers and advise commanders in ways and means of preventing psychological disorders.

It is recommended that a provisional psychiatric and welfare section be established in any hospital that becomes a front line medical unit due to nearby atomic attack. Such a function should be located adjacent to the main facilities for the physically injured and operate with a minimum of equipment and personnel. This section can be staffed by Medical Service Corps Officers trained in social work and clinical psychology, Red Cross personnel, chaplains, and several enlisted technicians along with a nurse to care for minor injuries. The assigned psychiatrists should serve only as consultants to

this section, for as medical officers, their services can be more profitably utilized in the treatment of physical casualties. After the emergency period has passed and the hospital situation has stabilized, psychiatrists as well as other specialists should resume their characteristic medical function.

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AVAILABILITY OF RADIOACTIVE ELEMENTS IN ARIZONA

THERE are facilities in Maricopa County for the performance of most of the accepted Radioisotopic methods of diagnosis and treatment. The purpose of this note is to list briefly the isotopes that are available here and the conditions in which their use is generally accepted.

RADIOACTIVE PHOSPHORUS P32

Sodium Radiophosphate is thought in most clinics to be the treatment of choice in Polycythemia Vera. It is not of value in acute leucemia but often is useful in the management of chronic leucemia. This isotope has an affinity for rapidly growing tissue and has been used in association with conventional radiation therapy in the treatment of lymphomas and other malignancies.

In the form of chromic radiophosphate, P32 can be instilled into pleural and/or peritoneal cavities in the treatment of malignant effusions.

Although still under study, P32 has not been found of great value for diagnosis. The one established use is in the diagnosis and localization of tumors of the orbit.

RADIOACTIVE IODINE I-131

I-131 is probably the most useful isotope in medical use. It is of particular value in the study of thyroid function which however is so complex, that it can not be anticipated that a single test will be all-inclusive. The rate of uptake of I-131 by the thyroid gland and the total uptake in a standard period of time provided reliable criteria of hyper-thyroidism in a high percentage of cases. The conversion of I-131 into PBI 131 as evaluated by blood studies gives additional information in difficult cases. A scan of the neck is particularly useful in evaluating the function of thyroid nodules and in the differentiation of Graves Disease from toxic nodular goiter. The procedure is also useful in the detection of aberrant thyroid tissue and functioning thyroid carcinomatous metastases. Cancer of the thyroid can not be diagnosed or excluded by the use of I-131 but a nodule is less likely to be cancerous if it is functioning and particularly if hyper-function is present.

In the diagnosis and classification of hypothyroidism, I-131 studies are of considerable value particularly when repeated after TSH (Thyroid stimulating hormone) stimulation. I-131 is particularly valuable in confirming the diagnosis of thyroiditis and of thyrotoxicosis factitia.

I-131 is generally accepted as an effective therapy in hyper-thyroidism. While there is still debate as to the precise conditions in which it should be used, there is no doubt that when used judiciously, a valuable therapeutic aid has been added to our armamentarium.

Mary L. Sussman, M.D.

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At the present time there are two isotopes which are available for use in Pima County. These are the radioactive phosphorus and radioactive iodine.

RADIOACTIVE PHOSPHORUS

It is well known that radioactive phosphorus is the treatment of choice of Polycythemia Vera, having been likened to the use of insulin for Diabetes. Usually a single dose will give a

remission which will last for years. Radioactive phosphorus is also useful in the treatment of the chronic leukemias, but shows no usefulness whatsoever in the acute leukemias. Diagnostically there is little use of radioactive phosphorus, although it can be used for evaluation of tumors fairly near the surface of the anterior portion of the eye, and is also useful for the localization of brain tumors at surgery.

Radioactive phosphorous may be administered either orally or intravenously. In the usual dosages there are no significant signs of radiation sickness or toxicity. Of course, overdosage may produce an abnormal blood picture due to its depressing effect upon the hematopoietic system.

RADIOACTIVE IDOINE

Radioactive iodine is of course rather well known for its use in diagnosis as well as treatment of malfunctions of the thyroid gland.

In Pima County there are at the present time only two sources of radioactive isotopes. Dr. James Fritz has an authorization for the use of radioactive iodine and Dr. Wesley Fee has an authorization for the use of radioactive iodine and radioactive phosphorous.

Wesley S. Fee, M.D.

NATIONAL MEDICAL FOUNDATION FOR EYE CARE

ANNOUNCEMENT was made 11/15/56 of the establishment of the National Medical Foundation for Eye Care, a non-profit scientific and educational institution, incorporated in New Jersey. The Foundation has been organized by ophthalmologists of the country to provide American ophthalmology with an agency to present to the public generally and to fellow physicians pertinent information on the care and treatment of the eyes.

Dr. Ralph O. Rychener of Memphis is president of the Foundation; Dr. Edwin Forbes Tait of Norristown, Pa., vice president, and Dr. Charles E. Jaeckle of East Orange, N. J., secretary-treasurer.

Members of the Board of Trustees, in addition to the above named, are Dr. Alson E. Braley of Iowa City, Iowa; Dr. Frederick C. Cordes of San Francisco; Dr. Paul Chandler of Boston; Dr. J. Spencer Dryden of Washington, D. C.; Dr. Harold F. Falls of Ann Arbor, Mich.; Dr. Everett L. Goer of Houston; Dr. Erling W. Hansen of Minneapolis; Dr. A. D. Ruedemann of Detroit; Dr. Barnet R. Sakler of Cincinnati, and Dr. Derrick Vail of Chicago.

In a special statement announcing the Foundation's establishment, Dr. Rychener declared: "American ophthalmologists have long recognized an urgent need for an organization whose principal function will be to interpret the basic professional and scientific standards of good eye care for the American people, both to our fellow physicians and to the people whom we serve."

"The National Medical Foundation for Eye Care will seek to serve the public interest by helping the people to understand the educational qualifications and the professional functions of physicians specializing in ophthalmology, and the functions of related technical and ancillary personnel who assist them. The Foundation will also endeavor to keep our colleagues in the medical profession informed concerning the problems confronting ophthalmology in its efforts to fulfill its mission as a member of the team of recognized medical specialities serving the American people."

Dr. Rychener revealed that the Foundation is now enrolling its charter membership, and he invited all ophthalmologists and other physicians interested in eye care to become charter members of the Foundation.

Applications are available through Dr. Charles E. Jaeckle, secretary-treasurer, at 136 Evergreen Place, East Orange, New Jersey. The Foundation will establish an administrative office in New York City about January 1st, 1957, and will also make available an Affiliate Membership for persons other than doctors of medicine who are interested in aiding the purposes of the Foundation, Dr. Rychener announced.

The object and purpose of the Foundation is to advance the public welfare by:

1. Gathering, receiving, assembling and studying information relative to eye care.

2. Fostering and/or engaging in investigations and research in all aspects of eye care.

3. Sponsoring studies of educational, socio-economic and scientific factors affecting eye care.

4. Issuing reports and otherwise disseminating information relative to eye care to the general public and to members of the medical profession and ancillary workers.

5. Promoting the conservation of vision and the prevention of blindness through the wider dissemination of knowledge of the eye, its defects, disfunctions and other diseases and their relation to general health.

6. Promoting a more effective utilization of the scientific knowledge of ophthalmology and the other related branches of medicine.

7. Generally performing any act, related to the foregoing, designed to present to the public generally and the medical profession, all pertinent information on the care and treatment of the eyes.

ARIZONA STATE BOARD OF PHARMACY

1028 E. McDowell Rd.
Phoenix, Ariz.

TREASURY DEPARTMENT
Bureau of Narcotics
Washington 25

Office of

Commissioner of Narcotics December 4, 1956
Mr. E. C. Mason, Secretary
Arizona State Board of Pharmacy
1028 East McDowell Road
Phoenix, Arizona

Dear Mr. Mason:

Reference is made to your letter of November 29, 1956, requesting to be advised if a pharmacist may fill an oral prescription for a permitted narcotic drug when the oral prescription is telephoned by the doctor's nurse.

The Federal statute permitting the filling of oral prescriptions for narcotic drugs is an exception to the general rule which requires a written prescription for narcotic drugs. The statute provides that in lieu of a written prescription, the sale, dispensing, or distribution may be made by a dealer to a consumer upon oral prescription of a duly registered physician, dentist, veterinarian, or other practitioner. IN THE OPINION OF THE BUREAU THAT REQUIRES THE PRACTITIONER TO TELEPHONE THE ORAL PRESCRIPTION TO THE DRUGGIST AND DOES NOT PERMIT A NURSE TO DO IT FOR THE PHYSICIAN.

Very truly yours,

G. W. Cunningham
Acting Commissioner of Narcotics

A.M.A. GIVES $5,000 TO HUNGARIAN PHYSICIANS

ON THE final day of the Seattle session, the Board of Trustees announced that the A.M.A. was contributing $5,000 to Hungarian physician refugees in Austria.

The $5,000 check was dispatched immediately to the American embassy in Vienna with instruction to turn it over to the American Medical Society in Vienna.

But that is not the full story.

Within 24 hours after the money was cabled a message addressed to the House of Delegates was received in Seattle. It expressed "profound thanks" to "every member of the House of Delegates from the 300 Hungarian refugee doctors now in Austria."

Then, in a few days, came a lengthy letter from Dr. M. Arthur Kline, executive secretary of the American Medical Society in Vienna. He thanked the A.M.A. again for its financial help, and then painted a gruesome picture of a doctor's life during the revolutionary days in Hungary.

"Every hour," he said, "reports are being received in Vienna, telling us of the constantly increasing number of doctors who are escaping across the border and applying for refugee status in Austria. The reason for this panic-stricken flight is that the A.V.O. (Hungarian Gestapo or Secret Police) are arresting all doctors in Hungary who have treated injured Revolutionaries and who did not report the details, as required by law."

It was of course impossible for the doctors to do this, the letter explained, because "the number of injured was so numerous that most of the doctors worked around the clock, trying to cope with the catastrophe."

Dr. Kline's letter added:

"Practically every doctor in Vienna has opened his home to a Hungarian colleague and his family. In almost all cases, the Hungarians crossed the border penniless and with their families. In many instances, they carried their small children in their arms for distances up to 200 miles. . . .

"In addition to offering their homes, the Austrian doctors have all responded to our appeal by raising approximately $8,000 to meet expenses in caring for our unfortunate colleagues. Considering the average income of the Austrian

physician, this sum constitutes a tremendous sacrifice. Each Hungarian doctor receives the sum of 500 shillings (approximately $20) when he first registers with us in Vienna. Our $8,000 was exhausted over two weeks ago.

"Medicine is a proud profession and we should particularly care for our own. The great majority of Hungarian refugees are workers and laborers and, as such, they will experience little difficulty in finding work. The doctors, however, most of whom speak only Hungarian, are naturally tremendously handicapped because of language and regulation difficulties.

"At the present rate of refugee doctors pouring into Austria, the A.M.A. sum of $5,000 will not last more than five days. It seems that we shall be required to assist them for many weeks or perhaps months to come."

With that statement, Dr. Kline appealed for American contributions. His address is: Dr. M. Arthur Kline, Executive Secretary, The American Medical Society, 11 Universitatsstrasse, Vienna 1, Austria.

At the same time, President Ellsworth Bunker of the American Red Cross in Washington sent a letter to A.M.A. President Murray, asking doctors to contribute generously to the $5,000,000 Red Cross fund for Hungarian relief.

"Because of your organization's traditional concern for our fellow-men and its fine record of support for humanitarian causes," the letter said, "I urge that you call the attention of your members to this special appeal."

FOUNDATION ANNOUNCES $88,500 MORE IN GRANTS

CHICAGO — Assistance in the form of long-term, unsecured loans to 24 physicians for the establishment and improvement of 15 medical practice units was announced today by the Sears-Roebuck Foundation.

These loans, ranging from $1,000 to $10,000, were made under the Plan of Financial Assistance of the Foundation and are part of an annual grant to a revolving assistance fund. The loans totaled $88,500.

The 15 loans just announced go to physicians in Oregon, Washington, Southeastern Kentucky, Minnesota, California, Mississippi, Georgia, North and South Carolina, southern Florida, New York, Rhode Island, and a suburban area of New Haven, Connecticut.

The Foundation made the first grant available in 1955. With today's announcement a total of $261,000 has been granted in 36 loans to 52 physicians in 18 states. Thus far the majority of loans of assistance have gone to two types of physicians: graduating interns just establishing themselves in areas of medical need, and established physicians located in small communities, rural and suburban areas whose medical facilities are so inadequate it is necessary to rebuild in order to provide decent medical care.

Theodore V. Houser, president of the Foundation, also announced that applications are now being received for consideration during the first half of 1957 when approximately $72,500 will be available for additional loans. Applications received prior to April 1st will be processed no later than June 15th. Physicians desiring to apply should have their plans well developed so that proper evaluation may be made. Applications may be obtained from state, county or city medical societies.

The purpose of this plan is to help physicians supplement personal and local financing which is inadequate to cover the entire cost of building, remodeling, equipping or establishing a medical practice. The Foundation hopes to be of aid in improving medical distribution and medical facilities in areas where there is a shortage of physicians and inadequate facilities exist.

The Foundation administers the plan, while the screening and actual selection of applicants is done by a 17 member Advisory Board of leading physicians from all sections of the country named by the Board of Trustees of the American Medical Association.

Resume Of Recent Meetings

RECENT ADVANCES IN NEUROSURGERY

By Charles W. Elkins, M.D.

THE AMERICAN Academy of Neurological Surgery convened for its eighteenth annual meeting at the Camelback Inn, Phoenix, on November 8th, 9th, and 10, 1956. More than one hundred members and guests, from this country and Canada, attended the meetings and exchanged ideas on many subjects, both clinical and experimental.

Sections of the meetings were devoted to problems such as embryology, physiology and surgery of the hypophysis; neurosurgery in children with special emphasis on newer methods for control of hydrocephalus; improvements of technic, diagnostic procedures and instruments; surgery for psychomotor epilepsy, and hypothermia and its role in protection of the brain from anoxia in the surgery of vascular lesions. A portion of the meeting was devoted to a general discussion of neurosurgical training programs.

Reviewing each valuable contribution must be reserved for other publications and many will be published independently. It is hoped, however, that the succeeding paragraphs will present the highlights and demonstrate the scope of this meeting.

It is now generally agreed that surgery of the pituitary gland has lost many of its hazards with proper preparation and postoperative treatment of the patient with ACTH and Cortisone. While Hypophysectomy for metastatic breast carcinoma is still in the clinical experimental stage certain conclusions may be drawn from the experience of several clinics. Generally, the procedure is most effective in prolonging life and arresting lesions after bilateral oophorectomy in the premenopause patient. Substitution therapy with Pitressin and whole pituitary seems to be effective in controlling diabetes insipidus and pituitary deficiency after severing the pituitary stalk and performing total hypophysectomy.

The treatment of communicating hydrocephalus in children has been a difficult problem over many years. Shunts from the subarachnoid space into practically every body cavity have been devised as a means of disposing of cerebral spinal fluid which is not absorbed in sufficient amounts thru normal venous arachnoid channels. It has been thought that if cerebral spinal fluid could be directed into a venous channel, it would most closely approach the physiological method of absorption. Recently and experimentally, the lateral cerebral ventricle has been drained into the right cardiac auricle thru the common facial vein and internal jugular vein. A sleeve valve in the plastic catheter prevents regurgitation of venous blood. Many believe that if the devastating process of progressive communicating hydrocephalus can be arrested for a time, normal absorptive mechanisms may be initiated.

Psychomotor epilepsy with or without grand mal seizures has been successfully treated by surgical removal of portions of the temporal lobe in several clinics and at the Arizona State Hospital. Cortical electroencephalography is most useful in determining the amount of temporal lobe tissue to be surgically ablated. The best results seem to be obtained in those cases of observable disease of the lobe, particularly when there are atrophic areas present secondary to birth trauma.

Hibernotherapy or hypothermia and its role in protecting the central nervous system against the effects of anoxia, has created nation wide interest both in the laboratory and in the operating room. Much experimental work is being done and clinical application has yielded encouraging results. The prize winning essay demonstrated that with hypothermia, the usual cerebral infarct did not occur following ligation of the middle cerebral artery in dogs. It is thought that lowered metabolism of the brain under hypothermia decreases oxygen requirement of cerebral tissue and permits otherwise insufficient collateral circulation to be adequate. If this is proven to be a physiological fact, it carries tremendous implications in the future treatment of cerebral vascular disease and the effects of occlusive cerebral arterial disease. Clinically, at the present time, hypothermia offers the neurosurgeon a greater length of time in his operative approach to cerebral aneurysms and arterial-venous malformations. The brain may be rendered avascular by temporary occlusion of both carotid and both vertebral arteries for up to twelve minutes while the lesion is being attacked in a bloodless field. Apparently the time honored concept if irreversible brain damage following five minutes of anoxia must be altered.

Training programs for the future neurosurgeons are being surveyed and concepts are changing. It is recognized that this specialty is now being practiced in small communities and that only a few neurosurgeons will have the opportunity to gather large series of surgical cases in any given category. The training programs must now be adjusted to the situation and more attention focused on the preparation of the trainee to handle more diversified problems in the fields of medical and surgical neurology.

The meetings were dynamic and all who attended and participated departed with praise for the organization. It is hoped that the American Academy of Neurological Surgeons will return to Arizona.

RESUME OF WESTERN ORTHOPEDIC MEETING

By Alvin L. Swenson, M. D.

THE TWENTIETH Annual Meeting of the Western Orthopedic Association was held in Phoenix at the Arizona Biltmore Hotel from October 31 to November 3. It was considered a very excellent meeting by the 300 or more orthopedic surgeons from the western states.

The meeting got underway at noon on October 31 with a short business meeting. The scientific session started later that afternoon, and the first two papers were on back pain. Dr. Mensor of San Francisco read a paper entitled "Mobility Studies of the Lower Lumbar Spine in Relation to Low Back Pain". Dr. Wiltse of Long Beach had a paper on "The Etiology of Spondylolisthesis". There was quite a discussion about the whole low back syndrome in connection with these two papers. Dr. John Cooper of Honolulu read a paper to bring out the unusual relationship between the coracoid process and the clavicle in some cases and the occasional presence of a pseudarthrosis in this region to be the cause of shoulder pain. The last paper on the opening afternoon was by Dr. Bertram Krouse, Ph.D. of the Department of Anthropology of the University of Arizona, and his subject matter was the high incidence of congenital dislocations of the hip among the Fort Apache Indians.

The next morning an entirely new type of program arrangement was carried out. This program was carried out at a breakfast round-table discussion. The subject was generally the reconstruction of hips, and Carrol B. Larson, M.D., Professor of Orthopedic Surgery at the University of Iowa was the moderator. Papers were presented by Dr. Nash and Dr. Kirk Anderson of Seattle and by Dr. Urist of Los Angeles. These papers covered follow-up studies on hip protheses and cup arthroplasties of the hip. Dr. Larson then summarized all of the findings and discussed reconstructive surgery about the hip and outlined a method of testing hips and evaluating them, both from the patient's standpoint and from the doctor's standpoint, both before and after reconstructive surgery. Since the hip is a major weight bearing joint, very frequently only a small amount of improvement is appreciated by the patient.

The rest of that morning session was taken up with a number of papers on bone tumors. Some discussion ensued regarding the possible relationship of a single trauma and subsequent cancerous lesions in bones. Infections of bones were the general group of papers that followed and specifically for joint tuberculosis, the best results were obtained by the use of drug therapy and early surgery. Drs. Kortner and Schwartzmann of Tucson gave an interesting paper on "Bone Lesions in Disseminated Coccidioidmycoses". This subject was particularly interesting to all of the members since this condition is quite prevalent in the southwestern part of the country, as compared to other regions.

The second morning another breakfast round-table discussion was carried out. The subject of this discussion was "Neck Pain". Cervical strain and occipital neuritis as well as peripheral neuropathy was discussed. Following the breakfast round-table discussion, the general results of some amputations were brought up. Dr. Mazet of Los Angeles gave a paper on the study of the results of cenoplasty, and Dr. J. Warren White of Honolulu gave a paper on the self-contained below the knee amputation prosthesis. The rest of the morning then was turned over to the residents of orthopedic services in various western hospitals. Dr. Clausen of the San Francisco City Hospital gave an excellent paper on "Subcapital Fractures of the Femoral Neck and all of the Difficulty That Can Be Encountered With Such Fractures". He particularly pointed out the possibility of delayed aseptic necrosis and the relatively high percentage of non-unions that might occur. Dr. Wesley Hunter of the University of California Medical Center in San Francisco gave a paper to outline the treatment of "Solitary Bone Cysts". He again pointed out the likelihood of recurrences in younger children when the lesion was close to the epiphysis and the difficulty of getting a complete cure even with the most meticulous bone grafting methods. Two other papers were presented by Dr. Kernahan of the Childrens Hospital in Salt Lake City, Utah and Dr. Nore of the U. S. Naval Hospital in Oakland, California. The subjects of these papers were "Cor-

relation of Femoral Anteversion With Re-dislocation of Congenital Hips", and the second one was the discussion of "Neuroma in Clinical Orthopedics".

The final morning was taken up by two papers on cerebral palsy, and these papers merely outlined the existing knowledge on the types of athetosis and the significance of some of the primitive reflexes that are seen in cerebral palsy. Other papers that morning dealt with the treatment of isolated fractures of the greater trochanter as well as the more complicated intertrochanteric fractures. This paper about intertrochanteric fractures was a study of the treatment of such fractures at the Denver General Hospital and was read by Dr. Olshausen of Boulder, Colorado. A plea for the use of safety belts in modern cars was well covered by Dr. Stanley Sell of Idaho Falls, Idaho. With the use of safety belts, it is possible to reduce the number of fatal injuries and serious injuries from car accidents. The final paper was given by Dr. Robert Bingham of Riverside, California who discussed hot mineral baths in the treatment of orthopedic patients and discussed some general physical therapy measures.

Dr. Lytton-Smith was the President of the Western Orthopedic Meeting and was responsible for the excellent meeting that was put on and the fine way that it was handled. Dr. Schwartzmann had arranged all of the scientific papers, and he certainly had done an excellent job. Other members had worked equally hard at getting out a most unusual and excellent program booklet. This program booklet contained many color photos of Arizona scenes, and all of them had been taken from and donated by the Arizona Highways magazine. All of the local arrangements, including the golf tournament, the social events and many other activities during the convention, had been ably handled by other members of the Arizona Orthopedic Group which put on the program. A special thanks should be extended to all of the wives of the orthopedic surgeons in Phoenix who spent many hours helping carry out the functions of registration and helping organize many of the social events. The Arizona Group of Orthopedic Surgeons hope that they can get the Western Orthopedic Association to return for a second meeting in Phoenix within the next few years.

Future Meetings

1957 ANNUAL MEETING APRIL 10-13, 1957

INTRODUCING Albert G. Bower, M.D., of Pasadena, California.

Doctor Bower is Clinical Professor of Medicine at the University of Southern California and also at the College of Medical Evangelists. He is Chief Physician in Communicable Diseases Unit at the Los Angeles County General Hospital. In World War I, he was Captain in the Medical Corps, Regular Army; in World War II, Captain in the Medical Corps, United States Naval Reserve, retiring as such thereafter. He is Past President (1939) of the Hollywood Academy of Medicine; member of the Los Angeles Academy of Medicine; Fellow A.A.A.S. and Life Fellow A.C.P.; Consultant to Hollywood Presbyterian, Huntington Memorial, Burmingham Veteran's, St. Luke's, St. Joseph's, Glendale Memorial and Glendale Sanitarium hospitals. Doctor Bower is also author of two books and numerous papers.

Albert G. Bower, M.D.

INTRODUCING Philip Thorek, M.D., of Chicago, Illinois.

Doctor Thorek was born in 1906 and graduated from the University of Illinois College of Medicine, receiving his doctor of medicine degree in 1931. He is Clinical Associate Professor

Philip Thorek, M.D.

of Surgery, University of Illinois; Professor of Surgery, Cook County Graduate School of Medicine; Diplomate, American Board of Surgery; Fellow, American College of Surgery; Fellow, International College of Surgeons; Fellow, American Association of Chest Physicians; American Board of Anatomists; Sigma Xi; Honorary Fellow, American Association of General Practice. He is author of the following books: "Anatomy in Surgery", "Diseases of the Esophagus", "Diagnosis in Surgery". Doctor Thorek is also the maker of medical films totalling a library of 68 subjects, which are made available to the medical profession.

5,000 FAMILY PHYSICIANS TO ATTEND MARCH 25-28 MEETING IN ST. LOUIS

KANSAS CITY, MO.—More than 5,000 of the nation's family physicians will attend the Ninth Annual American Academy of General Practice Scientific Assembly, March 25-28, 1957, in Kiel Auditorium, St. Louis, Mo.

The record-shattering attendance was today predicted by Mac F. Cahal, the Academy's executive secretary and general counsel. Each of the past four meetings has successively established a new attendance record.

During the four-day scientific meeting, the doctors will hear outstanding speakers discuss important subjects including infertility, polio vaccination, and the "neglected" pediatric areas, the eyes, ears, and feet. They will visit 60 scientific and 260 technical exhibits.

Dr. I. S. Ravdin, professor of surgery at the University of Pennsylvania, will moderate a panel discussion of pre- and post-operative care. Dr. Philip Thorek, associate professor of surgery at the University of Illinois and professor of surgery at Cook County Graduate School will discuss "Intestinal Obstruction." Three other surgeons will highlight advances in vascular, thoracic, and neurosurgery. One afternoon will be devoted to a review of procedures that assure birth of "healthy babies" from "well mothers." This subject is important to family physicians who currently deliver 85 per cent of the nation's children.

The Academy's policy-making Congress of Delegates will convene at 2 p.m., Saturday, March 23. All sessions of the Congress and many social functions will be held in the Sheraton-Jefferson hotel.

Wednesday evening, March 27, following induction ceremonies for Academy President-elect Malcom E. Phelps, El Reno, Oklahoma, more than 3,000 guests will attend a President's reception and dance honoring J. S. DeTar, M.D., Milan, Mich., president of the Academy.

SECTIONAL MEETING ACS

SURGEONS from the western and northwestern states and Canada will participate in a three-day Sectional Meeting of the American College of Surgeons in Seattle, Washington, February 28, March 1 and 2, at The Olympic Hotel. Practical surgical problems will be discussed by a group of distinguished surgeon-teachers at this meeting, which is open to all medical representatives.

Dr. Henry H. Harkins, Professor and Executive Officer, Department of Surgery, University of Washington School of Medicine, is Chairman of the local Advisory Committee on Arrangements for this meeting.

The three-day program of concentrated presentations will include panel discussions, symposia, scientific papers, and new surgical motion pictures.

George A. Falkner, Walla, Walla, President of the Washington Chapter of the College, will preside over the Dinner program on the evening

of Wednesday, February 27. Speakers will be F. John Lewis, Minneapolis, on the topic "A Super-Radical Mastectomy for Carcinoma of the Breast" and Paul R. Hawley, The Director, ASC, on "The Position of the College Upon Current Problems of Medical Practice."

The preliminary program includes the following speakers and topics:

Thursday morning, February 28

Cardiac Arrest. K. ALVIN MERENDINO, Seattle.

Priorities for Surgical Treatment in Mass Disasters. COL. JOSEPH R. SHAEFFER.

The Use of Skin Grafts in Treatment of Acute Hand Injuries. MORRIS J. DIRSTINE.

Symposium on Amputations: ERNEST M. BURGESS, Seattle, Leader, DEAN K. CRYSTAL, FAULKNER A. SHORT.

Ophthalmology Symposium — Surgical Pathology of Special Interest to the Ophthalmologist. LEONARD CHRISTENSEN, LEVON K. GARRON, A. RAY IRVINE, JR.

TRAUMA LUNCHEON, 12:30-2 p.m.

Thursday afternoon

DR. BURGESS presiding:

Trauma Symposium. ROBERT A. WISE, FRED J. JARVIS, KENNETH E. LIVINGSTON, ALLEN M. BOYDEN, ROLAND D. PINKHAM, FRANK P. PATTERSON.

DR. HERBERT E. COE, Seattle, presiding:

Symposium on Hypothermia in Cardiac Surgery. J. CARTER CALLAGHAN, FRANK L. GERBODE, F. JOHN LEWIS.

Friday morning

Antibiotics in Surgery. LT. COL. EDWIN J. JULASKI.

Some Observations on the Treatment of Varicose Veins and Stasis Ulcers. G. LESLIE WILLOX.

Indications for Duodenostomy in Common Duct Surgery. HORACE J. McCORKLE.

Significance of Lower Abdominal Pain as a Symptom in Gynecology. ARTHUR B. NASH.

Surgical Stress Response — When is it Normal, and When Should it be Treated? JAMES D. HARDY.

Friday afternoon

2-3:25, RALPH H. LOE, Seattle, presiding:

Cancer Symposium. H. MASON MORFIT, CLARENCE V. HODGES, ORLISS WILDERMUTH, HARVEY W. BAKER.

3:30-5:00 p.m. CHARLES D. KIMBALL, Seattle, presiding:

Panel — Incontinence in the Female. HOWARD C. STEARNS, ROBERT J. JOHNSON, ROY L. SWANK, TATE MASON, R. PHILIP SMITH.

The Saturday half-day session will feature films and two panel discussions, JOEL W. BAKER, Seattle, presiding:

Panel — Vascular Grafts vs. Endarterectomy. HENRY N. HARKINS, WILEY F. BARKER, EDWIN J. WYLIE, JACK A. CANNON.

Panel — Biliary Tract Surgery. H. ROCKE ROBERTSON, E. A. BOYDEN, CARL P. SCHLICKE, WILLIAM E. HUTCHINSON, JOEL W. BAKER.

Inquiries about Sectional Meetings may be addressed to Dr. H. Prather Saunders, Associate Director, American College of Surgeons, 40 East Erie Street, Chicago 11, Illinois.

International College of Surgeons To Hold Tenth International Congress In Mexico City, February 24-28

THE INTERNATIONAL College of Surgeons extends a cordial invitation to all physicians, medical personnel and their friends to attend its Tenth International Congress in Mexico City, February 24-28.

The meeting is being held at the invitation of His Excellency, Don Adolfo Ruiz Cortines, President of Mexico. It will combine an excellent scientific program by outstanding surgeons of the world with an opportunity to enjoy the show places of Mexico.

Four days will be devoted to the scientific program, to be presented at the University of Mexico. This will cover all phases of surgery. Blocks of rooms have been set aside in Mexico City's finest hotels for those attending. Social functions have been scheduled. For those who wish to see something of the country, two post-congress tours have been arranged.

In view of the large attendance which is expected, and the shortness of time, reservations should be made at once. To simplify the making of arrangements, the International Travel Service, Inc., Palmer House, Chicago 3, Ill., has been chosen to handle registrations for the congress, hotel reservations and travel. Inquiries for further information should be directed to the International Travel Service, Inc.

SYMPOSIUM TO DISCUSS "FATS IN HUMAN NUTRITION"

CHICAGO – "Fats in Human Nutrition" will be discussed in a symposium to be held March 15 in the Louisiana State University auditorium, New Orleans, under the sponsorship of the American Medical Association's Council on Foods and Nutrition.

Cooperating in presenting the symposium will be the Orleans Parish Medical Society, the New Orleans Graduate Medical Assembly, the School of Medicine of Louisiana State University, and the Tulane University School of Nutrition.

Speakers will include outstanding men in nutrition, biochemistry, pediatrics, heart disease, and other allied fields.

Special emphasis will be on fats, cholesterol, and atherosclerosis, according to Dr. Philip L. White, secretary of the Council on Foods and Nutrition. The meeting is especially planned for general practitioners and other physicians, nutritionists, educators, home economists, and others interested in nutrition.

Speakers and their topics will be:

Dr. L. Emmet Holt, Jr., director of the department of pediatrics, New York University School of Medicine, "Dietary fat – its role in nutrition and human requirements."

Dr. Donald S. Frederickson, clinical associate, National Heart Institute, National Institutes of Health, Bethesda, Md., "Biochemical aspects of fat, cholesterol and lipoprotein metabolism of importance in clinical medicine."

Dr. W. Stanley Hartroft, chairman of the department of pathology, Washington University, St. Louis, Mo., "Pathologic lesions related to disturbances of fat and cholesterol metabolism in man."

Ancel B. Keys, Ph.D., director of the laboratory of physical hygiene, University of Minnesota, "Epidemiological studies of diet, blood lipids and atherosclerosis."

Dr. Edward H. Ahrens, Jr., associate physician at the Rockefeller Institute Hospital, New York. "Metabolic studies of relationships between dietary fat and serum lipid levels."

Dr. Frederick J. Stare, head of the department of nutrition, Harvard school of public health, and associates, "Therapeutic implications of nutritional studies relating to serum lipids and atherosclerosis."

Chairman for the afternoon session on atherosclerosis will be Dr. George E. Burch, professor and head of the department of medicine, Tulane University.

The presentations will be followed by a discussion session among the speakers and physicians and scientists from the New Orleans area. The discussion also will be opened to the audience.

The American Academy of General Practice is offering six hours of credit in category one to members of the Academy who attend the symposium.

Those interested in attending may get further information by writing the Council on Foods and Nutrition, American Medical Association, 535 North Dearborn, Chicago 10, Ill.

Medical Societies may arrange for showings of "The Medical Witness" through the film library of the A.M.A. Headquarters, 535 North Dearborn Street, Chicago, Illinois.

D.W.N.

PHOENIX *Clinical* CLUB

The Case History in this discussion is selected from the Case Records of the Massachusetts General Hospital, and reprinted from the New England Journal of Medicine. The discussant under Differential Diagnosis is a member of the staff of the Massachusetts General Hospital. The other discussants are members of the Phoenix Clinical Club.

MASSACHUSETTS GENERAL HOSPITAL PRESENTATION OF CASE 41291

A SEVENTY-ONE-YEAR-OLD retired accountant entered the hospital complaining of indigestion.

Fifty years before admission while in Puerto Rico the patient had a "tropical complaint" characterized by indigestion and midepigastric distress. Since that time at irregular intervals he had experienced attacks of postprandial epigastric distress. These came on almost immediately after meals, were not related to any particular food, to position or to exertion but did follow excessive eating and drinking of alcohol. Relief was obtained by fasting or dieting or by abstaining from alcohol. There was no associated nausea, vomiting or melena. He never consulted a physician or took medicine. Two or three months before entry the distress became more severe and frequent to the point where it occurred after every meal and sometimes lasted until the next one. It was gnawing in nature, and did not radiate. He was treated by his family physician with a bland diet, belladonna and "white tablets" with only temporary relief. A gastrointestinal series and two barium-enema examinations were said to have been negative. Three stool benzidine tests were positive. His appetite declined markedly, and he became progressively weaker. During the six months before admission he lost 35 pounds. Shortly before admission the pain became unremitting, and partial relief was obtained only by lying down. With the recent increase in pain the patient noted the onset of slight itching of the back, which was not accompanied by jaundice or a rash. It gradually increased in intensity so that it interfered with sleep.

The patient admitted to having consumed as much as 1 pint of whisky a day in the past, but now limited the intake to ½ pint a week.

The temperature was 98.6° F., the pulse 80, and the respirations 18. The blood pressure was 110 systolic, 60 diastolic.

Physical examination revealed a small, alert, cachectic man. The chest was increased in anteroposterior diameter and was hyperresonant; expirations were prolonged. The heart sounds were distant and a Grade 1 apical systolic murmur was heard at the apex. The liver was palpable 3 finger breaths below the right costal margin. Its edge was slightly tender, firm and smooth. The prostate was slightly enlarged and firm. There was phlebitis and edema of the left leg.

Urinalysis was negative. Examination of the blood revealed a hemoglobin of 11.8 gm. per 100 cc. and a white-cell count of 13,100, with 48 per cent neutrophils, 6 per cent lymphocytes, 4 per cent monocytes and 42 per cent eosinophils. The cephalin and the thymol flocculation tests were negative. The alkaline phosphatase was 3.4 units per 100 cc. The bilirubin was less than 0.2 mg., the total protein 4.7 gm., the albumin 2.8 gm., and the globulin 1.9 gm. per 100 cc. A glucose tolerance test showed a fasting blood sugar of 123 gm., a thirty-minute level of 150 mg., a sixty-minute level of 195 mg. and a two-hour level of 162 mg. per 100 cc. A blood Hinton test was negative. An x-ray film of the chest revealed the presence of multiple healed fractures in the posterior rib cage on the left. The lungs were emphysematous and had increased linear markings, especially in the region of the right middle lobe. The heart was not enlarged. A Graham test was negative. A gastrointestinal series demonstrated a normal esophagus, stomach and duodenum. There was no delay in gastric emptying. In films made directly after the barium meal there was some irregularity of the jejunum over a 5-cm. segment just distal to the ligament of Treitz, then an intervening 10-cm. zone of relatively normal-appearing small bowel followed by another segment that was somewhat irregular in outline.

An operation was performed on the sixth

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DR. ROBERT T. PHILLIPS

This 71 year old accountant gives a history dating back 50 years to a tropical complaint acquired in Puerto Rico. This has persisted at irregular intervals, aggravated by alcohol and food, and relieved by abstaining from these.

In the past six months he has lost 35 pounds. He has had abdominal pain of increasing severity, lasting from one meal to the next, is gnawing in character, does not radiate, and is accompanied by slight itching of the back which interferes with sleep.

The abdominal pain may be partially relieved by lying down.

Physical examination revealed a small, alert cachetic man. His chest is emphysematous with increased linear marking – more marked in the right middle lobe.

The liver is enlarged, smooth, firm and a little tender.

The heart has a little murmur.

There is phlebitis and edema of the left leg.

The prostate is slightly enlarged and firm.

The urine is negative.

The blood shows a hemoglobin of 11.8 gms/100 cc. White blood count 13,000, 42% neutro, 42% eosinophiles. Cephalin floculation and thymol turbidity are negative. Alkaline phosphatase 3.4 units, is normal. Total protein 4.7, albumin 2.8 gms., globulin 1.9 gms. Glucose tolerance test is a little abnormal.

X-rays of chest show healed fractures of the posterior rib cage on the left.

G.I. series show normal stomach, duodenum and two areas of irregularity in the upper jejunum.

The obvious diagnosis at first glance would be a schistosoma masoni infection acquired in Puerto Rico 50 years ago. This would not be the classical picture of cirrhosis, ascites and extreme wasting, but one of those rare instances in which parasite and host live in balance for years, the balance finally tipped by the hosts' advancing years and alcoholic indiscretions. This and other parasitic infections were considered largely because of the marked eosiniphilia.

I could be satisfied with none of them.

Echinococcus granulosa infestation doesn't fit in at all even though it could give the eosinophilia.

The weight loss, anemia, epigastric pain partially relieved by lying down, the itching of the back, the melena and the X-ray findings of two areas of irregularity, all suggest a malignancy in the proximal jejunum.

Is the itching the equivalent of the pain found in tumors of the pancreas? However, lacking a palpable tumor, or something other than a slightly abnormal glucose tolerance curve, we can only surmise that this is a possibility.

The previously normal G.I. series and the findings of the irregularities in the upper jejunum at this time, plus the increasing severity of the patient's symptoms suggest the possibility of a tumor of the bowel which has slowly grown to produce symptoms by its local and metastatic growth.

This patient is in the eighth decade, the most vulnerable age for the malignant tumors of the small intestine. While tumors of the jejunum are rare, they do occur.

Adenocarcinoma is the most common tumor in this area. With no note made of mucosal alteration we might consider those whose growth is more slow and extra lumenal. In this group we have leiomyoma, leiomyosarcoma and lymphosarcoma.

Lymphosarcoma tends to infiltrate the outer coats of the bowel before involving the mucosa. At first there is little or no stenosis. Relatively large areas of bowel may be involved. The lumen of the bowel may be increased. The bowel wall may be rigid with no peristalsis.

Relative flexibility of the defect under the fluroscopist's fingers is in favor of lymphosarcoma. Diagnosis is always made by laparotomy.

The eosinophilia could be due to metastatic involvement of the surface of the peritoneum.

Periarteritis nodosa, tumors of the ovary (not in this man) and parasites will also give eosinophilia.

This patient's anemia is mild as is often the case in lymphosarcoma. Hodgkin's and the adenocarcinoma generally cause a more severe anemia.

As for the phlebitis – this is not uncommon when a malignancy is present.

Chronic ulcerative jejunitis is to be mentioned, especially as a so called skip area may be interpreted from the X-ray report. There is no evidence of stenosis noted. I will surmise that in this case with the long history, some evidence of stenosis should be present.

Eosinophilic granuloma of the bowel is to be mentioned and passed over.

The linear densities noted in the lung are considered rather futilely, I can't fit them into the picture. Like Mr. Truman I will dismiss them as "red herring".

My diagnosis:

1. Malignancy of the proximal jejunum, probably lymphosarcoma or Hodgkin's.
2. Chronic regional jejunitis.
3. Schistomiasis masoni.

DIFFERENTIAL DIAGNOSIS

Dr. Daniel S. Ellis: This elderly man had gastrointestinal symptoms for fifty years, but in the year before admission he had a definite change in symptoms, with weakness, anorexia, weight loss and a severe, unremitting pain. The only findings on physical examination that may be of importance other than the cachexia are the hyperresonance of the chest and the enlargement of the liver. I am going to say that he had emphysema and that was the only significant disease in the chest unless Dr. Hanelin shows me evidence of other disease in the films. The liver aparently was not very large; in a cachectic man with an emphysematous chest a liver palpable 2 or 3 finger breaths below the right costal margin would not be unusual, and I have no other evidence of its enlargement. There was no mention of nodularity of the liver. I was given three x-ray films of the abdomen with the protocol, and I am not impressed by the enlargement of the liver in these films. Another point in the history, which may be very important, is the pruritus.

The important laboratory findings are the occult blood in the stools, the slight anemia and the marked eosinophilia. The last finding is one on which I have relied heavily in making a diagnosis. From the symptoms and physical finding I believe this patient had a malignant neoplasm of some kind. There was a lesion or multiple lesion in the small bowel; the problem is to determine what kind of neoplasm this man had in the small intestine and whether or not any disease in addition to that was demonstrated on the x-ray films. After looking over the literature last night I find that I am fortunate in having an expert on the roentgenologic diagnosis of diseases of the small bowel in the person of Dr. Hanelin, who will interpret the films for us. Perhaps he can make the diagnosis for me. Is there anything in the chest, Dr. Hanelin, or can I dismiss that?

Dr. Joseph Hanelin: The lungs are emphysematous, and that is about all we can say. The heart is not enlarged; there may be some fullness of the left ventricle. There are old rib fractures on the left side.

Dr. Ellis: Are those fractures traumatic fractures that have healed?

Dr. Hanelin: Yes; I see no evidence of any pathologic bone involvement of the liver or spleen and think, as he does, that the emphysema probably allowed the liver to be readily palpated. The stomach and duodenum are normal. The abnormalities are in two segments of small intestine — one immediately beyond the ligament of Treitz and another about 10 cm. beyond it of similar length. A complete small-bowel examination was not done. Certainly, the first condition that comes to mind is neoplasm. I think I shall let Dr. Ellis speculate about the type since this is really not an x-ray discussion.

Dr. Ellis: Obviously, the final diagnosis of this lesion can only be made by a biopsy. I have already committed myself by saying that, because of the marked weight loss, progressive weakness, anorexia, anemia and the steady downhill course over the months immediately preceding admission, I think that this was a malignant neoplasm. Before discussing the kind of neoplasm, however, I think I should mention other possibilities.

There are several "red herrings" in the protocol. In the first place I am shifted off on a tangent by the intimation that the patient had lived in the tropics and that he had eosinophilia; immediately, the question comes up: Was there parasitic involvement? I am not familiar with any parasitic disease that might give this x-ray picture. I do not think hookworm will do it. Nor do I think schistosomiasis will, but I have not seen enough x-ray films of schistosomiasis to know. Judging by what I have read I should consider that there are gastrointestinal lesions of eosinophilic granuloma. I do not think I should do any more than mention it. Amebiasis may rarely be associated with eosinophilia. Amebiasis, when it involves the gastrointestinal tract, is most commonly localized in the cecal region. I am not aware of the possibility of amebic granulomas high in the small bowel. The other granulomatous diseases like regional enteritis and tuberculosis should be mentioned.

It would be most unusual for a tuberculous lesion in the jejunum to look like this. The lesions of regional enteritis seem to me to be slightly different. Perhaps Dr. Hanelin would be willing to tell us why he thinks this may not have been regional enteritis.

Dr. Hanelin: This does not look like any regional enteritis that I have ever seen. It is unusual, of course, to see regional enteritis in this location, although rarely it may involve the uppermost portion of the gastrointestinal tract.

Dr. Ellis: Regional enteritis has involved the duodenum and jejunum, but I think the configuration here is not that of regional enteritis.

Dr. Hanelin: I should expect to see narrowing of the bowel and frank evidence of ulceration but not quite so much irregularity.

Dr. Ellis: Also, there was no history of the patient's having had a great deal of diarrhea; I think he would have had some diarrhea with regional enteritis of a severity that made him so ill. These are the possibilities besides neoplasm that I should consider, but I believe that neoplasm is more likely.

What kind of neoplasm was this? Five per cent of all gastrointestinal malignant neoplasms are located in the small bowel. Botsford and Sibel, several years ago, reported 65 cases of small-bowel tumor, of which 33 were malignant; of those 33, 18 were adenocarcinomas, 13 were lymphosarcomas, and 2 were argentaffinomas, I think everyone will concede that carcinoma is more likely in this area than any other type of neoplasm, although it may be only slightly more common than lymphoma. Now I shall go back to two findings that I mentioned previously – namely, the eosinophilia and the generalized pruritus, both of which are common in lymphomatous disease. Eosinophilia is also seen with hepatic neoplasms. The liver-function tests were negative, there was no evidence that the liver was enlarged, and it was certainly not nodular, so that I shall dismiss metastatic neoplasm to the liver as the cause of the eosinophilia. That leaves lymphoma, and by and large it lies in the realm of the pathologist to tell us which kind was present. There are, however, some clues that point to one kind of lymphoma rather than the other. The generalized itching and the eosinophilia, I am told, are seen more often with Hodgkin's lymphoma than with the other types so I might narrow this even further. Jackson and Parker state that Hodgkin's paragranuloma never occurs in the gastrointestinal tract. Hodgkin's granuloma probably is the most common type of lymphoma. I should be inclined to believe that this was probably the type in this case but for the fact that there were multiple lesions. In the series of disease in the small bowel reported by Jackson and Parker there were no cases of Hodgkin's granuloma manifesting themselves as multiple lesions; they are usually single lesions in the gastrointestinal tract from disease elsewhere. Hodgkin's sarcoma, on the other hand, as frequently as not, produces multiple lesions in the gastrointestinal tract. Therefore, I am going to say that this patient had a malignant lymphoma of the jejunum and that since there were multiple lesions he most probably had Hodgkin's sarcoma rather than Hodgkin's granuloma.

I should mention one other possibility because of the multiple lesions – that is, carcinoid. That is more likely to be found in the region of the cecum and small bowel; however, it is found in the upper small intestine occasionally.

Dr. William H. Baker: I thought that eosinophilia was not usually assoicated with amebiasis; I thought that was one major distinguishing feature.

Dr. Ellis: It is much less likely than with the other parasites.

CLINICAL DIAGNOSIS

Metastatic malignant process of small bowel.

DR. DANIEL S. ELLIS'S DIAGNOSIS

Hodgkin's sarcoma of small bowel.

ANATOMICAL DIAGNOSIS

Malignant lymphoma reticulum-cell-sarcoma type, of small bowel.

PATHOLOGICAL DISCUSSION

Dr. Austin L. Vickery; Dr. McDermott, would you outline the operation that you performed on this man?

Dr. William V. McDermott: When we opened the peritoneal cavity we saw a series of tumor masses beginning at the ligament of Treitz and involving most of the small bowel through its entire extent. There must have been at least a dozen lesions of varying sizes up and down the small bowel. The mesentery contained many large lymph nodes, including a mass of lymph nodes around the superior mesenteric vessels. We believed that the primary tumor was a lymphoma; it had a typical rubbery consistence.

None of the tumor extended through the serosa at the time of operation. We debated how best to determine the diagnosis. Finally, we selected a large lymph node, which we thought the pathologist would tell us had the characteristic picture of lymphoma. No surgical resection was possible.

Dr. Vickery: The lymph-node biopsy obtained at the time of exploration showed only chronic lymphadenitis on microscopical examination. The node was large and suggestive of lymphoma on cut surface, but when the gastrointestinal tract is involved with malignant lymphoma, biopsy of enlarged mesenteric lymph nodes has often proved to be a diagnostic trap. This patient was referred to Dr. Milford D. Schulz for x-ray treatment. I think it is interesting that in the record Dr. Schultz has dictated a note to the effect that he gave a good deal of weight to the two observations that Dr. Ellis mentioned – the itching of the skin and the eosinophilia – as favoring the diagnosis of lymphoma.

After a postoperative course of x-ray therapy the patient was fairly well for a while and then proceeded to go rapidly downhill and died six weeks after laparotomy.

Post-mortem examination showed multicentric intestinal tumor masses, rubbery in consistence, irregular in outline and intramural in location extending from the ligament of Treitz down the jejunum for a distance of 80 cm. There was a generalized peritonitis, and the peritoneal cavity contained a liter of purulent fluid. The opened bowel revealed focal mucosal ulcerations corresponding to zones of tumor infiltration and necrosis. One of these ulcerated areas had perforated through the bowel wall, producing the peritonitis.

On microscopical examination these tumor masses proved to be malignant lymphoma. The pleomorphism and cytology of the neoplasm suggested a classification in the reticulum-cell-sarcoma group.

We wondered if the x-ray therapy and the resultant tumor reaction were not responsible for the extensive necrosis in the tumor; this has been described in the radiology literature. Seventy-nine cases of primary malignant lymphoma of the gastrointestinal tract were reported last year by Allen et al. from the files of this hospital covering a forty-year period. Twenty-five of these occurred in the small bowel. The authors pointed out the high relative incidence of malignant lymphoma to all forms of malignant small-bowel neoplasms, lymphomas comprising about 40 per cent of the total. This figure is in striking contrast to other portions of the gastrointestinal tract.

It is worth while pointing out that, although very frequently the regional lymph nodes are enlarged with primary lymphoma of the gastrointestinal tract, they are not necessarily involved by the tumor. Approximately half the cases of malignant lymphoma of the small bowel in this series that had resections did not show lymph-node involvement. The warning and, of course, the lesson to be learned is that the primary lesion, not the lymph node, should be biopsied. Multicentric tumors are not uncommon in lymphoma of the small bowel and made up about 25 per cent in this series of cases; these cases proved to have a prognosis about 50 per cent worse than those with single lesions. Fifteen patients with small-bowel lymphoma had resections; 5 of these had a five-year survival. The majority of the patients died within a year, so that the prognosis in general is not good, but it is better than that for carcinoma of the small bowel.

Woman's AUXILIARY

THIRTEENTH ANNUAL CONFERENCE

THE THIRTEENTH Annual Conference for State Presidents and Presidents-elect was held at the Drake Hotel in Chicago, October 1, 2 and 3, 1956, there were 153 registered including 43 State Presidents and 43 Presidents-elect. The Arizona Auxiliary was represented by Mrs. Oscar Thoeny, State President and I as President-elect.

Mrs. Robert Flanders, National President and Mrs. Paul Craig, President-elect presided over the conference. Mrs. Flanders spoke on the theme for the Auxiliary this year, (Health is our greatest Heritage). The primary project for the auxiliary this year is health education. Through our programs and projects we must endeavor to aid our own community to preserve this heritage, without good health personal happiness is not possible.

Dr. Ernest Howard, Assistant Secretary to the American Medical Association, gave a round-up of the A.M.A. activities for the past year. Dr. Howard urged that all auxiliaries work closely with their local medical societies. He discussed a few of the bills passed and ones pending before Congress.

HR 7225 has been adopted and the cruel blow was that it was passed by one vote. This is another step toward socialized medicine. Dr. Howard said the Hoover Commission had many good features but with the medical recommendations as they were the A.M.A. could not endorse it. The objectionable parts could not be eliminated.

THE AMERICAN MEDICAL EDUCATION FOUNDATION

Mr. John Hedback, Executive Secretary of A.M.E.F. stated the Woman's Auxiliary had done more than any other group this year to raise money for the A.M.E.F. They raised $106,000 and this year the quota of the Woman's Auxiliary is $140,000. An easy way for each one of us to raise our share is the use of the new "In Memoriam" cards and the "In Appreciation" cards. The board of directors of A.M.E.F. will not have a fund raising campaign this year.

SAFETY

This year we have a new special safety committee. Safety in traffic and safety in the home. The National chairman whose slogan is, 'Heed' not 'Speed', is accenting safety consciousness, observance of traffic signals, driver training programs and the use of safety devices in automobiles. The baby sitter program called "Gems" (Good Emergency Mother Substitutes) is being stressed.

RECRUITMENT

This no longer applies to just nurse recruitment but it is an educational program to stimulate and inform the nation's youth of other fields allied to medicine such as medical technology, medical social service, physical and occupational therapy, there are 150 different varieties of health careers. Last year 46,000 students were admitted to Professional schools of nursing and 15,000 to practical nursing schools. As an auxiliary we can check the needs in our own communities and see that the high school students are provided with the necessary information and guidance with special emphasis on good programs.

MENTAL HEALTH

Mental illness is one of our major health problems. Special emphasis is being placed on psychiatric problems in children. Each year $700,000,000 is spent on mental health illnesses and the need for child guidance centers and marriage counsellors is very evident. There is need for parents to be educated to the emotional disturbances that some children encounter in the process of growing up. Films for TV and radio transcriptions are available.

CIVIL DEFENSE

This continues in importance. We must be prepared for all kinds of disaster such as hospital units set up, training dentists, nurses and lay groups to care for casualties, have first aid supplies in our homes and car.

ORGANIZATION

This committee plans a bell ringing campaign that every eligible Doctor's wife be contacted and invited to join the Woman's Auxiliary. Their aim is to have a membership comparable to the parent body.

PROGRAM

Plan your program to the needs of your own community. A strong interesting program builds a strong enthusiastic auxiliary.

PUBLIC RELATIONS

Our activities in the community create public relations, true happiness comes from helping others.

LEGISLATION

Mrs. Oscar Thoeny participated on this panel speaking on the Omnibus Health Bill and Federal Mortgage.

Mr. Joseph Stetler, Director of the A.M.A. law department, said there had been more bills pertaining to health introduced in the 84th Congress than ever before in history. This again points to the Federal Government's increased intervention in health fields. Mr. Stetler stated that as auxiliary members we should be alert to the bills coming before Congress and know what they are about, check on our husbands and see that they are interested. He predicted the 85th and 86th Congress would be a repetition of the 84th and there is a need for the Doctors to wake up and realize what is happening.

TODAYS HEALTH MAGAZINE

Is the only authentic health magazine published for the laity with truthful medical facts. The three R's are stressed, RECEPTION – ROOM – READERSHIP. It should be in every Doctor's office, beauty salon, school library and home. This magazine is an excellent way to promote health education. Everyone is interested in health problems because health means hope and hope means everything.

BULLETIN

This is the working tool and directory for auxiliary members. It serves as an incentive to interest women in unorganized counties. The chairman of the Western region for this publication is Mrs. Roy Hewitt of Tucson, past State President.

HISTORY

This is collecting and filing completed material. Mrs. Jesse D. Hammer of Phoenix did this work alone for many years but with the growth of the National Organization this year there is a committee of four and Mrs. Hamer is chairman of the Western region.

It was our privilege the last day of the Conference to visit the A.M.A. headquarters. This was informative and interesting to see and hear of the many services available to our Doctors.

The Conference from beginning to the end was both stimulating and educational. I appreciate the privilege of attending this session.

Mrs. Charles S. Powell
State President-elect